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# The Peterhouse effect

The phrase, of course, is unfair. But despite or perhaps because of this it is almost irresistibly seductive. For Peterhouse has become something of a symbol of the radical right in English intellectual life, largely no doubt as a result of the teaching and writing of Maurice Cowling and Edward Norman. Radical is perhaps an inaccurate adjective to apply to the former whose purpose has been to sustain a lively tradition of Toryism, although hardly of the Pym-Prior school. Dr Norman with a more combative temperament would probably have fewer objections to the adjective "radical". But both have maintained a serious and not unsuccessful assault on the chilly Whig core of British public life. So the Peterhouse effect may be rather more than a catchy phrase; it may represent a small but colourful part of a great reversal of national preoccupations which have remained essentially unchanged since 1945 (or 1906, or even 1832?).

The chilly Whig core is still in its accustomed place of course. Anyone who has any doubt about this has only to listen to the current series of British lectures by Sir Douglas Warr, former permanent secretary at the Treasury. Whatever prospect there may be for a revolution in intellectual life, in public life the old Whig gods are still respected. Material and moral progress go hand in hand; reform without threat to a fundamental social order; a pragmatic belief in the benevolence of the state despite the objections of liberal ideologues. All three ideas are as vigorous as ever.

They are as vigorous as ever at any time in terms of their grip on British institutions. In Sir Douglas's lecture it is possible to identify a continuity of tone that goes back to the beginnings of the modern bureaucratic state in the half century after 1832 and especially in the 1850s and 1860s. It is almost not too fanciful to imagine Trevelyan saying similar things to Sir Douglas, not in detail of course but in the underlying assumption about the rational organization of society. If there had been Reith lectures 130 years ago. This continuity is hardly surprising. W. H. Greenleaf in his *The British Political Tradition* published earlier this year explains very well the institutional and ideological momentum behind what can be conveniently but crudely called conservatism. The result is that these ruling Whig values are not so much embodied in abstract ideas but entrenched in the mundane habits of powerful institutions.

That is a source both of great

strength and of potential vulnerability. Inertia is a state of great power, but power that is entirely negative. It is difficult enough to suspect at times that the positive power of these entrenched institutional values is draining away. For in their first 70 years of supremacy these Whig values were the product of an unassailable alliance between morality and rationality. Nonconformity (and both its more established and secular variants) and positivism (and more moderate extensions of the scientific tradition) came together to produce a common programme for society.

In their second 70 years of supremacy these Whig values lost the active support of morality, mainly because of the secular decay of the great institutions of morality like nonconformity but also because of growing cultural pessimism under the shocks of the twentieth century. This was replaced by a much more feeble ethical predisposition to support whatever was currently defined as social progress. Whig values retained the active support of rationality for much longer. Only in the last 10 years has it become almost possible to argue that conservative values are as good a guide to the rational organization of modern society.

However at a much earlier period Whig values had begun to lose the crucial support of progressive intellectuals. The latter went whoring after Marxism and adopted an essentially critical and hostile attitude to the society of which they had once been natural defenders. Subsequently Conservatism, which from Joseph Chamberlain to Harold Macmillan has been simply an alternative form of Whiggery, was redivorced by unambiguously conservative values that broke through the political surface after a century's suppression - which perhaps is where the Peterhouse effect comes into the argument.

So under the chaos of misleading labels that litter British public and intellectual life in the 1980s two remarkable paradoxes can be glimpsed. The first is that the liberal Left has been deserted by its intellectual supporters, who have abandoned public duty for ideological purity in a way that would have shocked their Victorian predecessors, while the conservative Right has regained a large body of intellectual support after so many years of being labelled philistine and reactionary. The enthusiasm for the Social Democratic Party in universities should not, conceal the intellectual vacuum on the centre-left.

The second is that, despite five years of Mrs Thatcher, British public life is still entirely dominated by the Whig values of the centre-left. The gains of radical Conservatism have in practice been slight. Ground has been given up but no important principles have been conceded. British intellectual life in contrast seems to be increasingly polarized between irresponsible millenarianism on the left and a rapidly reviving Conservative tradition - and the latter sometimes seems to baffle the better lines. In other words how modern Britain actually works, and the pragmatic values that underpin that detailed operation, are denied effective intellectual support. The thinking classes, to adopt a favourite phrase in *The Times*, are indifferent or hostile to good news in Peterhouse perhaps but bad news for Whitehall.

If this argument is even half accurate it has disturbing implications for public administration. To take an example close to home, the debate which Sir Peter Swinnerton-Dyer hopes to stimulate about the future of higher education. The obstacles to such a debate are already considerable. The tyranny of experts which keeps the less expert at bay, the increasing sectionalization of national affairs into water-tight compartments, the diversity of values represented in a modern system of higher education, pervasive anti-intellectualism in lay society.

But a larger obstacle could be the lack of symmetry between the administrative values and practices which still guide the performance of Britain's public life and the intellectual values which seem to excite or annoy us in Britain in the 1980s. There really is a little interesting that can be said about higher education from either a quasi-Marxist or neo-conservative point of view. The debate can only take place in the context of Whiggish values. Yet these values have gone stonely cold.

More generally a reasonable symmetry between the institutions and ideas of society is the basis not only of the high public culture that the Victorians enjoyed (imagine Matthew Arnold or John Stuart Mill on the UGC's 28 questions) but also of our ability to reform institutions and to adapt ideas to human and practical use. Otherwise institutions become inert and ideas volatile playthings. It would be of course unfair to label the Peterhouse effect - as it would be to label the former the WAS syndrome. But there is perhaps just enough truth in both to justify such unfair use.

# Save the ILEA

confusion of ad hoc and single-purpose queries.

The Government's new power to control rates will have results that are as objectionable. For a start it is almost certainly unnecessary even in terms of the Government's own desire to limit public expenditure. The record shows that local government is a costly spender, while central government itself is the profligate. It will clearly curtail the sensitivity of local services by central formula and computer data base.

Both strands of the Government's attack on local government come together to bear particularly oppressively on the ILEA. On Tuesday, a special meeting of the authority's education committee passed a motion rejecting the Government's plans for its future that had been proposed jointly by the Labour majority leader, the Conservative opposition leader, and the Liberal Social Democratic Party member of the ILEA. Before their united front is dismantled, as another example of the "bugle or snail" syndrome, careful attention should be paid to the education officer's report which was the subject of the motion. In it, Mr William Stubbs, ILEA's chief executive, demolished the Government's case for a "bugle or snail" danger in that the

Department of Education and Science will not bother to listen to these arguments or consult properly about the details - because it knows that although it has no real case in the first place, the "bugle or snail" has already made up her mind. The White Paper itself does up her skirt to argue the case against a unitary authority for Inner London. The ILEA has retained the surprisingly partisan support of most London parents under most difficult conditions. It has extensive responsibilities for further and higher education, including five polytechnics, which make it particularly unsuitable for direction by a quango composed of borough councillors with inevitably parochial concerns.

The traditional arrangements proposed in the White Paper are a special horror. In effect they give the DES the power to fix not only the budget but staffing levels for the Inner London education service. Not even the best friend of the DES could imagine that it was remotely competent to do this. Even the Department of Health and Social Security, which has almost 30 years of experience of direct management responsibility for the health service, has made a fool of itself trying to fix staffing levels for regions and districts in the NHS.

The Government should accept that by a reasonable standard the ILEA is a special case and should be left alone.

## Laurie Taylor



Good. So that seems to be agreed. I'll all write as individuals to the UGC about the restructuring of the universities, where we'll express a departmental view. Now, item 18. *Results of the Survey Carried out by the Departmental Word Processor Subcommittee*. Yes, Doctor Wernitz, this, I believe, is very much your pigeon.

Yes, thank you, Professor Lapping. I presume that I hardly need to remind anyone, that this is the survey upon which it was agreed, after some protracted, even heated, but always well-informed discussion, that we should base our departmental decision about the purchase of this particular piece of advanced technology. In this era of rapidly changing...

Do get a move on Doctor Wernitz. There are still nearly eight items of non-student business to be covered. I think we can take all that rubbish about "moving with the times" for granted.

I'm sorry, Professor Lapping. May I then move immediately to the first part of the survey - and here, as elsewhere, may I acknowledge the malodorous help we received throughout the course of our work from Doctor Connell. Here, here.

Now, in this first section we concentrated upon the possible benefits for staff which might lie in the correcting and display facilities of the processor. As I remember, you specifically asked for academic articles which might be improved before publication by these means.

Exactly. Unfortunately only one article was submitted to the committee - from Doctor Pierremuller - and we were unable to see how this might benefit from the relatively modest technology we were considering. Might we know the precise problem? It was mainly a question of very poor spelling.

Ah. We then turned to the issue of updating book lists - that is, the capacity of the machine for storing book lists in a manner which allows for alphabetical ordering of entries to be made at any time. However, our findings indicate that most book lists in the department have not undergone revision in the last ten years, and furthermore, 82 per cent of those departmental members who responded were of the opinion that "nothing worth reading" had been produced in their subject area during that period. Pretty conclusive.

Yes, indeed. Then we turned to student records, concentrating here on the machine's ability to provide detailed information on a student's academic record, background qualifications and tutorial progress during the course. But here again, there was little positive benefit perceived, with 92 per cent of the departmental members ticking the statement: "I know far too much about the students already, thank you very much."

So the balance of opinion was running pretty strongly against purchase, Doctor Wernitz? Quite so, Professor Lapping. But I was pleased to say that the situation was quite reversed when we came to the final question. And here, as you will see from the summary, we were in complete agreement. Excellent. So may we now minute this decision. "It was agreed that we should now proceed with the purchase of a Departmental Word Processor on the grounds that..." Could I have the exact words here, Doctor Wernitz? "On the grounds that..."

"That the Politics Department has no case already." Thank you. That will do splendidly. Now on to item seven, *Procedure to be followed when staff are absent from work*. I think we should like to start with this one.

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# UGC forges ahead with closures

by Olga Wojtas and Jon Turney

The University Grants Committee is pressing ahead with piecemeal rationalization, including departmental closures, despite its commitment to a great debate without preconditions on the future of the universities.

Heriot Watt University has been told to close its department of pharmacy and the UGC physical sciences committee is embarking on drastic restructuring of oceanography.

This is the first time since the July 1981 letter that the UGC has given universities detailed advice to close departments. It suggests that although no full-scale rationalization of the 1981 pattern will be completed by the UGC before its great debate is completed the committee has by no means abandoned rationalization by stealth.

The UGC has said an intake of 60 students is the minimum satisfactory size for a pharmacy school, and that Heriot Watt takes in only 45 students annually, making it the smallest university school. This has angered Heriot Watt, which was the only university to respond to a call from the Pharmaceutical Society of Great Britain for a halt to the massive expansion of pharmacy schools during the 1970s.

Heriot Watt was also told by the UGC in 1981 to make a substantial cut in its pharmacy intake. "Because we had already put our finger in the eye, we were cut from a much lower base", says Heriot Watt principal, Dr Tom Jehoston.

The UGC move follows a review by the Pharmaceutical Society recommending a 10 per cent reduction in the annual output of 3,600 pharmacy graduates. Heriot Watt has not yet seen the report, but Dr Jehoston said its pharmacy students had a consistent 100 per cent success rate in finding jobs.

He added that the report seemed to be a national manpower assessment, and did not consider regional needs. There are only three pharmacy schools in Scotland: at Heriot Watt and Strathclyde Universities, and Robert Gordon's Institute of Technology in Aberdeen.

Dr Jehoston is seeking an urgent meeting with the UGC next month to put the university's firm opposition to closure. Meanwhile the university, which has already successfully fought the UGC over the closure of its Russian department, is tentatively recruiting for next year's pharmacy intake. The UGC considers that staffing requirements for training pharmacists "could be met by other pharmacy schools in the universities and the public sector and that the continuation of the Heriot Watt school was not necessary on these grounds".

British oceanographers will spend Christmas wondering where they have to work next year. The UGC and the Natural Environment Research Council are both planning to restructure academic oceanography. At least one university department and two sites of the NERC's Institute of Oceanographic Sciences are at risk.

The UGC physical sciences committee decided earlier this month to send a visiting group to all four university oceanography departments to help decide how to reduce them to two larger units.

The committee believes oceanography is an expensive subject which would be better served by two well-established departments. Of the four existing departments - at Swansea, Bangor, Southampton and Liverpool - Swansea looks most at risk, but none of the others wishes to move.

Bangor and Southampton have already discussed a possible merger in detail, but reached no agreement on the best plan. It is now up to the UGC to decide who should go where. At Swansea, the appointment of a new professor of oceanography has been frozen on instructions from the committee.

At the same time the Natural Environment Research Council will be reviewing all four sites of the Institute of Oceanographic Sciences, at Hableton and Wormley in Surrey, Taunton in Somerset, and Bidston on Merseyside. A council meeting on December 1 considered proposals from the director of the institute, Dr Tony Laughton, to relocate the Taunton and Merseyside units at the central Surrey site.

This followed invitations to Dr Laughton and the director of the Institute for Terrestrial Ecology to make such plans from the chairman of the NERC, Sir Hermann Bendi. Dr Laughton explained that new plans were needed both to save money and to meet increasing pressure from the Advisory Board for the Research Councils to reduce the number of institute sites.

Chief officers and representatives of the Committee of Vice Chancellors and Principals and the Business and Technician Education Council, NAB, expressed its interest in quinquennial visits to institutions and CNAAs chief officer Dr Edwin Korr agreed that joint visits may be possible.

Strong opposition to these closures was expected at the CNAA meeting from the institutional representatives on the council.

But council members from universities and outside the education system were expected to support the officers' proposals.

The final NAB committee allocations to polytechnics and colleges of 1984/85, still awaiting the opinion of Sir Keith Joseph, Secretary of State for Education brought some relief to major institutions this week. Owing to the extra £20m in the advanced further education pool and the decision to allocate money on different bases to different types of institution, all the polytechnics do better, than they expected.

Only three polytechnics will receive less funding than they had this year: Portsmouth, Central London and North East London, whose director Mr Gerry Fowler pointed out that although the cut of over £800,000 was better than previous NAB figures it still rose well above £1m once inflation - ignored by NAB - had been taken into account.

A full table of polytechnic and major college allocations is on Page 4.

## Flowers' step to protect ministers

Ministers have been asked to wear vicar's flowers if they intend to visit a constituency privately in a bid to improve protection from campus violence. The suggestion came from Lord Williams of Gwylfa, a Conservative MP and chairman of the Committee of Ministers' Security, and was raised by Sir Keith Joseph, Secretary of State for Education, at a recent meeting between NAB and CNAAs chairmen and

## Government agrees to fund engineering scholarships

The future of the National Engineering Scholarship scheme, wavered because of lack of industrial support, has been secured by an increase in Government backing.

The Department of Education and Science has agreed to pay 70 per cent of the cost of the scheme, which will now be administered by the Engineering Council.

The scholarship was in danger of becoming an annual albatross, with the DES repeatedly seeking Treasury approval to bail out the scheme when



First year students on Thames Polytechnic's doomed primary BED course and children from Deftford primary schools work together at the ILEA Environment Studies Centre at Horton Kirby, near Dartford, Kent. The degree is taking a decision to create this year following a decision to close it by the secretary of state for education. Ironically it has just been awarded the Royal Society of Arts Education for Capability Award.

## Government agrees to fund engineering scholarships

Industrial contributions fell short of the expected 50 per cent share. The awards were set up in 1978 to give £500 a year to 500 outstanding engineering undergraduates, to encourage bright youngsters to take up engineering.

By 1981 so many companies refused to contribute that the Treasury had to put in an extra £10,000 to maintain the scheme. The 1982 intake was cut to 300 and there was still a shortfall on the industrial side.

A special appeal launched by the Engineering Employers' Federation

## Ethical code for social research

by Paul Flather

A new ethical code is being adopted by the Social Research Association to encourage good research practice and to help expose flagrant malpractices.

The association, with 500 academic, government, and local authority members, adopted an interim statement on ethical issues at its annual meeting last week, and plans to make a full commitment of obligations to society, colleagues, subjects and funders next year.

The issues include respecting confidentiality, obtaining consent and avoiding undue intrusion, making public methods and findings to allow review, assessing alternatives impartially, widening the scope of the work, pursuing objectivity, and considering conflicting interests.

The statement was originally prepared by a committee of the International Statistical Institute and received sympathetic notice at the ISI conference in Madrid in September. It has been adapted for the SRA.

Ethical codes are more common in the United States than here although some exist, for example the professional code of the Market Research Society which has been invoked against members.

The ISI-SRA code aims to avoid the traditional pitfalls of ethical codes that are either "aspirational", with goals that are almost unachievable, or "regulatory", with rules that are very undemanding.

Dr Roger Jowell, co-director of the Social and Community Planning Research at the City University, who has played a key role in producing the code, said the aim was to be realistic. Pressure on researchers will be by peer review, he said. "It is not to act up tribunals that cannot enforce sanctions."

Each principle in the 14-page code is followed by comments on likely conflicts. Thus researchers "must respect the right of subjects not to take part in surveys, even if they need more material to make the survey statistically valid."

Or researchers must respect rules of confidentiality even if it would be cheaper to re-use data for other purposes, or again researchers must strive for accuracy and avoid bias as far as possible within the terms of their contract and current value-systems.

Ms Denise Livesley, also at City, who headed the SRA ethics committee, said the aim was to provide a realistic framework within which researchers would make ethical decisions. "We will also be able to debate practices we feel unhappy about in public."

Two new concepts in the code require researchers to respect behaviour intended to be private even if it is done in public, and to avoid contractual restrictions that may force them to break ethical principles.

## The DES announcement, expected in the next few weeks, will stress that the new arrangement is not indefinite. Officially, it is anticipated the industrial contribution will rise again in the long term.

Dr Kenneth Miller, the director general of the Engineering Council, said: "The real advantage of the scheme is not that it brings more students into engineering directly, but that it makes the subject more attractive in schools."



# Letters to the editor

## Improvers at work without illusions

Sir, - Your use of the term "Whig" (leader, December 9) makes as much sense as Mrs Thatcher's or any other politician's use of "fascist". On almost any definition Whiggery would have to include that old reactionary, Melbourne, and exclude the radical, Mill. Just to point up your confusion, let us remember that Mrs Thatcher is a disciple of Hayek and Hayek is a disciple of Mill. May I suggest that if you want portmanteau words, you might use "Improvers" and "Economizers". Then you might go on to assert plausibly enough that the improvers are still in the saddle.

Apart from your defective nomenclature you do well to maintain that the consensus is alive and kicking in spite of the assertions of politicians, journalists and some wild political scientists to the contrary. In 1979 95 per cent of schools education and 98 per cent of medicine were located in the public sector. They still are.

Ailing nationalized industries have continued to crucify the present government as they did its Labour predecessor. The amount of economic activity that has been transferred to the private sector is a small proportion of the whole. The National Health Service is funded at 117 per cent of the 1979 real level and in spite of cuts educational institutions have continued to perform the essential functions.

In 1979 after the winter of discontent it was widely felt that things could not be allowed to go on as they had done: there had to be some legal, institutional and economic changes. The Labour Party was identified with a large part of the malaise and punished accordingly. This sentence was increased by the electorate in 1983 and a new consensus was confirmed, an anti-collectivist consensus. The idea made by those who assert the end of consensus is to assume that history is linear. It is not such thing; it changes its dimensions all the time.

When we look at the international context we see the United States with a

huge, unsustainable fiscal deficit and Sweden, the mecca of welfare, in like case. We see Holland with more unemployment than our own and we see a socialist French government recanting and promoting the virtues of the Bourgeois.

In these circumstances it is pointless to try to extrapolate a dead Keynesian system. The improvers are still at work. The difference is that they have shed their illusions.

Yours sincerely,  
KENNETH BURGIN

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## Designs on preservation of excellence

In most sectors of advanced further education, including much of the art and design area, there is an almost audible sigh of relief now that the outline of the NAB's recommendations for 1984/85 are evident. Of course there are problems but wholesale butchery appears unlikely. But there should be no rejoicing: many of the points made to the NAB in an NABE statement earlier this year will become even more pertinent when the effects of inflation and further restraints on the rate support grant become manifest in 1985/86 and beyond. Even now it is increasingly evident that if the initial proposals are accepted, art and design provision to the south east of England will be faced with large scale restructuring that will have results that are at least questionable for the balance of the national provision.

The NABE is inevitably concerned about the apparent inequitable distribution of resources between the public sector and the universities. This is a matter of great concern in the art and design field because by the greater part of the overall provision lies in the maintained sector. Furthermore art and design provision is comparatively small in national terms and there must be some concern that as a result of these factors the subject may face disproportionate cuts. The NABE will need to cut in the art and design area of ATE which exceeds the national average by 1984/85, until such time that there has been a major review which we believe might ultimately demonstrate the need for an expansion of many areas within the subject provision.

The society agrees that education in this country must continue to be aimed at meeting the needs of industry and commerce, but surely the needs of the wider community and of individuals are also vital to the future of this country? We believe that art, craft and design will continue to have a major role to play in a society which is changing rapidly and in which trends are not always easy to discern. It is certain that the training of good designers could help the economy of the nation by enabling manufacturing industry to establish new markets.

The colleges have a proven record of students developing new commercial and industrial enterprises and if anyone doubts the quality of the product they should be convinced by the exhibition "Young Blood" currently on show at the Barbican Centre, London. But there is more to it than this: the long term value of art and design education at all levels must be stressed for the contribution the subject can make to standards of critical awareness of design and the environment that affect all our lives, an essential part of the cultural fabric of society.

The "Young Blood" exhibition clearly demonstrates that art, craft and design education is concerned with levels of understanding, processes and skills where the discipline required to work effectively is at least as rigorous as in the most established part of the subject. It is a long established part of the society's philosophy that elements ranging from basic art to industrial design form part of a continuum.

Arbitrary divisions between these frequent and interrelated parts are therefore most unfortunate that art and design as a whole has been grouped by NAB in such a way as to suggest that there is not a strongly vocational character to the majority of courses in the design and art sphere.

The recommendations are outlined in a paper which I do form draft advice to the main Advisory Committee for the Society and Education of Teachers. It is intended to introduce tighter control of second subject studies through new criteria.

John Steel  
The author is general secretary of the National Society for Art Education.

Mr George Younger (left), Secretary of State for Scotland, appears to be ignoring survival attempts at Leith Nautical College. Mr Younger has decided to transfer Leith, at present a central institution run by the Scottish Education Department, to local authority control, very much against Leith's wishes.

The college view put strongly to Mr Younger by Dr Alan Watson (centre) the principal, who maintained that since Leith ran national and international courses, it should remain under central government control.

New hurdle for second subjects

Candidates for secondary teacher training courses wishing to study a second subject on top of their main qualifications could face a new entrance hurdle.

Recommendations for an "appropriate" A level minimum requirement are being considered this week by a committee of the Government's Advisory Body on teacher training.

The requirement which would apply to both "BEd" and "ECCE" entrants would mean that in postgraduate courses preference would be given to students who have studied the subject concerned or a closely related subject as part of their degree.

The recommendations are outlined in a paper which I do form draft advice to the main Advisory Committee for the Society and Education of Teachers. It is intended to introduce tighter control of second subject studies through new criteria.

John Steel  
The author is general secretary of the National Society for Art Education.

## Students attack Western 'war drive'

by David Jobbins

The National Union of Students has made a radical departure from its neutral approach to peace and disarmament.

An annual conference in Blackpool voted against the wishes of most of the executive to blame Western leaders for rising international tension.

In addition to following the Campaign for Nuclear Disarmament and voting for British withdrawal from NATO, delegates declared their opposition to a "war drive" which they

said was being mounted by Western leaders including Mrs Margaret Thatcher, the Prime Minister.

A resolution accused Mrs Thatcher, and Mr Paul Nitz, the US chief negotiator in the Geneva arms talks, of trying to make the idea of a winnable nuclear war acceptable to the people of the West by claiming the Soviet Union was planning a war.

The new policy was opposed by president Mr Neil Stewart when it was proposed by Mr Kevin McGill from Ruskin College, a Communist Party member. It will add to the already

strained relations between the NUS and ministers who are critical of the union's support for the CND.

Mr McGill told the conference: "That nutter in the White House does not believe in disarmament. He believes in putting his finger on the button as soon as he sees a situation which will enable him to do so."

But Mr John Murray, a Liberal executive member, said: "We cannot ignore the Soviet Union in the arms race. This motion totally apologizes for and justifies rearmament in Eastern Europe."

Mr Simon Spalding, the only Conservative on the executive, said after the proposal was accepted by 315 votes to 222: "This is an apologist motion for the Soviet Union. The executive realizes this policy will not be supported by the vast majority of students. If you had thought of anything you could do to damage you cause you would not have done it better."

The conference's overwhelming support for the National Graphical Association in its dispute with the *Messenger* group of newspapers will also widen the gulf between the NUS and ministers. After hearing from Mr John Ibbotson, the NGA official who handled the early talks with Mr Salim (Eddie) Shah, the proprietor, delegates collected £350 for the union.

Mr Ibbotson appealed to students to dig into their pockets to hire coaches to travel to Warrington for this week's demonstration and Mr Bob McLean, the NUS Scotland chairperson, appealed for a "massive student presence".

An emergency motion condemning violence but decrying the "folly" of using the law to reconcile an industrial dispute was supported.

There was disappointment among left alliance supporters that there was no Communist on the NUS executive, when Labour student Ms Lesley Smith won a straw poll to fill a vacancy.

## College refuses to close

by Patricia Santinelli

Catholic bishops and governors of De La Salle College, Manchester, this week snubbed Sir Keith Joseph, Secretary of State for Education, and decided to keep it open.

The governors were considering three options put forward by the Department of Education and Science on the future of the college, one of which would have meant total, almost immediate closure. The college has already been ordered to cease recruitment to teacher training from next year.

A statement issued by Bishop Holland, chairman of the board of governors, said: "It was agreed at a meeting of the governors that De La Salle will stay open in response to the wishes of the Bishop's Conference of England and Wales and with the backing of the Catholic Education Council."

Last week the bishops made it clear they were not prepared to accept Sir Keith's proposals for the college and would continue to fight both for its survival and to retain their historic share of teacher training places. They decided to join with other voluntary bodies to ensure that Sir Keith would observe "proper" consultations procedures.

Bishop Holland's statement gave no indication on how the college intended to proceed. The DES's third option was that it should seek to establish itself permanently as a "diversified" institution.

The department warned however that by doing so the college would be exposed to the full glare of a National Advisory Body review. Like all other institutions it would have to be financially viable.

## New member

Professor Colin Dollery, professor of clinical pharmacology at the Royal Postgraduate Medical School, University of London has been appointed to the University Grants Committee to replace Professor E. D. Acheson of Southampton University.

## Prejudice and equality

Sir, - In your otherwise positive editorial (*THES*, December 2) on the need to tackle the institutionalized racism within Britain's higher education system (although you might have noticed that several polytechnics and even some universities have made real efforts - not least within the social sciences) I must question your divisiveness between excluded groups.

You write: "If a tenth of the energy that has been exercised in promoting the interests of women in HE could be used in the cause of the blacks spectacular progress could be achieved." While it is true that many women - and some men - have fought to achieve greater justice within HE, it is up to you to tell us more about this "spectacular progress".

I am conscious of the cuts first in teacher training and then the social sciences, which sharply affected the educational opportunities for women. Despite the talk, I do not see women's faces much within science and technology faculties, except in the usual places as secretaries, technicians and cleaners.

Oh, yes; women did enjoy biology, but that is a cut area too. Women and their allies are having to redouble their efforts merely to stand still.

"Spectacular progress" has not delivered many top jobs to women. We have no women vice chancellors, no women directors of polytechnics, and, for that matter, no woman editor of *THE THES*. Yet we are nearly 52 per cent of British society.

Your editorial is divisive, in that you set the interests of women against those of blacks. Rather, we both, like disabled people, have a common problem of preponderance of the values and politics of the white middle class male. It is *him* who has to make space, not



Strategies against prejudice must start in schools

only within the present sadly constrained size of HE but also as part of a more generous and socially imaginative vision of the purposes of higher education.

In this situation it is said to find *THE THES* sharing these values, for a classic method of blocking reform is to set one excluded group against another. At very best your editorial merits one cheer.

Yours truly,  
HILARY ROSE,  
Professor, Postgraduate and undergraduate schools of applied social studies,  
University of Bradford.

Sir, - I fear your article on the exchange of correspondence between the informed anti-racist group of the Commission for Racial Equality and the Polytechnics Council for the Education of Teachers (*THES*, December 2) may be so compressed that it may exacerbate an already sensitive area of work where progress is beginning to be made. As I understand it, the difference between the two groups

is not that one is in favour of and the other against teaching to correct racism. It is basically about how to achieve the objective.

One of the problems is that we know almost nothing about appropriate educational strategies against racism, prejudice and action. We know from some previous work that regression may occur where appeal is made to the judgment of those involved, ie where the strategies are part of education rather than propaganda. But much more work is needed before anyone can be sure of the "how" of this issue.

What we now need is for all those who would eradicate racism from our society to work rationally in education and the wider society to achieve that goal. There are neither instant recipes nor panaceas, only unlimited scope for the kind of misunderstanding which your headline and article may unfortunately and unintentionally serve to cause.

Yours faithfully,  
JAMES LYNCH  
Dean of the faculty of education,  
Sunderland Polytechnic.

## RIBA conference

Sir, - The amount of space which you have recently devoted to matters of architectural and town planning education is commendable, but the account (*THES*, December 2) of last week's Royal Institute of British Architects' education conference hardly gives an adequate perspective of the issues discussed.

In particular, your report does not reflect the widespread mistrust of the shaky statistical base which has been used as an argument for further reductions in the resources currently available for architectural education (let it not be forgotten that two UK schools of architecture have already been closed in recent months).

Nor do you mention that the Department of Education and Science's permanent secretary's presence at the conference was very temporary. Had Mr Hancock stayed longer than about half an hour, he could have learned something about the nature of architectural education and the need for architects.

According to him, the DES intended "to balance the education of architects against the need for engineers". I wonder if he realises that there are at present 200,000 chartered engineers, as against 28,500 architects.

Moreover, a young graduate architect has at least four times more chance of being employed than a graduate engineer. (According to a Lancaster University job survey only medicine and pharmacy have a better employment record than architecture.)

There is something altogether strange about Mr Hancock's data. He declared that engineering and accountancy had the best job record, quoting from a DES survey which is apparently to be published early next year. However, when I asked a senior DES official about this, he replied that he had no knowledge of such a survey.

I believe that debate on architectural education is vitally necessary, but it will be productive only if it is founded on reliable data.

Yours faithfully,  
ANTHONY FORWARD,  
Associate dean,  
Architecture and allied studies,  
Huddersfield Polytechnic.

## Student quotas

Sir, - With reference to the letters from Professor Edwards (*THES*, December 2 and 9) are not "professional and managerial children" also part of working families even if most such families do not subscribe to the "working class" labels and mythologies of the Left, particularly its academic strata? Yours faithfully,  
R. MOSS,  
Teesside Polytechnic.

## Up in smoke

Sir, - The chairman of the education committee of the Association of Metropolitan Authorities, Mrs Harrison, has allowed herself to be pictured smoking. Indeed, flourishing her cigarette (*THES*, November 18). As an educationist, she should set a good example to public meetings.

Yours sincerely,  
JOHN LILLYARD-WATSON  
32 Beech Croft Road,  
Oxford.

## Irish history

Sir, - In your issue of November 11 George Boyce reviews for you four books on Irish "history". Because they are reviewed in *THE THES* one assumes that somebody somewhere regarded them as possessing academic merit.

It is usual, when there is a successful revolution, for the beneficiaries to write detailed accounts of it, laudatory and unreflective. Their value as history is on a par, say, with longwinded partisan accounts of struggles between the "Auld Licht" and the "New Licht". They massage the egos of their supporters, bore everyone else and have only a sketchy relationship to the general history of the country and time.

The truth of history, as Belloc said, lies in proportions. If the proportions are false then the history is false.

Detailed footnoting, interminable detail, recollections of sources are all useless without a sense of proportion. Without it the history of a cricket

club or a pushpony league would be equally useful and probably more riveting.

True history can only be written by asking serious questions, searching for all the evidence pro and con and sifting by the result. This distinguishes it from hagiography (in the popular sense), ideology and propaganda.

I would suggest that historians, historical sociologists, social historians, economists, political scientists etc might start asking real questions about Irish history (for example) apart from the musical chairs of political appointments: did Irish independence bring about real change in Irish society? If so, in what respects and were the changes beneficial?

To do this, the only real critique of the Irish revolution has come from the Irish language movement and they condemn it.

Yours sincerely,  
DES KEENAN,  
128 Blenheim Walk,  
Wembley Park, Middlesex.

## CND badges

Sir, - To reply to Dr. Belsey (*THES* letters, December 2). There is a clear distinction between the political, unacceptable, and the charitable, reluctantly acceptable. It is not a matter of Christianity or CND.

Yours faithfully,  
JACQUES SAUNDERS,  
Faculty of Law,  
University of Southampton.

## Engineers join Open Tech

by Felicity Jones

Contracts have been signed between the Engineering Industry Training Board and the Manpower Services Commission's Open Tech programme to develop a £730,000 open learning project in engineering design.

The initiative is a direct outcome of the Finisition report's emphasis on continuing training of technical staff in design skills and the Government's wish to assign a higher profile within industry to design.

The Open Tech money will be used to support the development of eight distance learning packages and the production of the knowledge-based written text and video material will be carried out by Cranfield Institute of Technology's centre for engineering design with the EITB.

The programme will start as a pilot scheme and EITB training staff will

establish schemes in about 50 companies and initially involve some 500 learners. The first two packages - in "Design for economic manufacture" and "Computer-aided design engineering" - will take 11 months to develop and validate.

Another award of £800,000 has been to the Business and Technician Education Council to try out new ways of teaching technicians and supervisors about the application of new technology to business.

BTEC's existing post-experience units will be developed as "open" learning packages for experienced workers at two regional centres based at the North West Management Centre at Chorley and Slough College of Higher Education.

A third signing of contracts has been drawn up between the National Institute for Careers Education and Counselling and Open Tech.

## MSC to cut two thirds of places

The Manpower Services Commission is about to cut nearly two thirds of the places directly provided by local authorities and colleges on the Youth Training Scheme for 1984/85 in spite of opposition.

This is revealed by MSC papers considered this week by the Youth Training Board which categorically rejected the proposals and asked for the regions to be consulted at its November meeting.

The cut would mean that Mode B2 (college-based) provision, which was targeted to fill some 55,000 places this year but filled only 20,000, would be set at that figure for next year.

This is in spite of the fact that the MSC expects 460,000 entrants on the scheme next year and intends to retain Mode B1 provision at 80,000, although only 60,000 places have been filled.

The MSC's argument for cutting back Mode B2 provision is that too many parts of the country early summer leavers joined Mode B schemes because these were the ones available at the time. It says that a sizeable proportion of this group would in the opinion of local officials be as well provided for in Mode A (employer based) schemes.

The commission also proposes to experiment in combining local Mode A and Mode B schemes so that young people who need it might get the benefit of experience on both types of provision in their YTS year.

No extra funding is likely to be available to promote a change in the eligibility rules to admit a greater number of unemployed 17-year-olds. The original cost of the scheme set at £1,000m is expected to be reduced to £800m through the shortfall.

### THE TIDE OF OPINION

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## DON'S DIARY

## THURSDAY

What is the French for "barbed-wire"? Our first task is to build a cow-proof rain-gauge enclosure. Eventually we find that the local hardware shop only sell it in huge quantities, and decide to improvise instead a very useful research procedure!

I have a conducted tour of D.'s instrumented catchments, do some surveying of instruments, a job requiring two people.

We then adjourn to discuss D.'s progress and experimental design in detail over a glass of Felderweissen, the first pressings of this year's wine. This produces interesting side-effects, including a decision to obtain some barbed wire by canalizing an existing enclosure.

## MONDAY

The week starts with a three-hour practical on geological maps. My notes are missing - they might be among material assembled for a book, or they might have been "lost" during the departmental summer repainting. I am not too concerned, as I have given that lecture many times, and have the appropriate book chapter draft as a psychological crutch.

The practical introduction seems to me to be satisfactorily coherent. The practical passes slowly; there are few questions, and I spend some time talking to the demonstrator about research.

Over lunch I deal with mail and read through the afternoon's lecture. This seems to go well enough but with only more enthusiasm from the students than I am able to feel for the topic - perhaps it is time that this course is revised.

On my way home I stop at a shop which has grown in four years from a small shop to a hardware superstore mainly, I sometimes feel as a result of the inadequacies of post-war houses like mine; I buy waterproofing compound. At the weekend our porch leaked so badly that the children were catching buckets of water during a storm. Perhaps they plan to be hydrologists too one day.

I finish the evening by watching *The Prisoner*. This was a cult programme who I was a student, but little did I realize that its "village" provided a very good model for university life!

## TUESDAY

I look after the children in the morning. As they are playing happily with buckets in the porch I try to revise for an increasingly imminent Open University maths course examination; this I follow mainly as a hobby, but it is a salutary experience to see things from a student viewpoint again. However, when the weather clears up I decide to make a repair to the porch roof.

Later morning I go to work, deal with mail, and lunch is followed by a hot pic and Mars Bar in the staff meeting at 1.30. This involves the usual fundamental matters concerning the syllabus and assessment, notices of procedural changes and future events, and some irrelevant minutiae.

Most staff can differentiate but those that can not prolong the meeting for everyone else. I water the plants in my study thoroughly, because it will be nearly a week until I return to them.

## WEDNESDAY

I try to creep out quietly to avoid waking the children, fall over buckets in the porch and fall. I catch the train to Luxembourg to visit a research student, D., who is based on our university and the Free University, Amsterdam. En route I revise although I also think about whether D. will have coped with setting up his installations since his supervisor from Amsterdam assisted during the first days of his field period.

The journey emphasizes the divisions which exist between Flemish and Wallon Belgium. A crazy way to run a country but, at least the trains are on time and I arrive in Luxembourg city to be met by D. and driven across Luxembourg to his base.

Vincent Gardiner

The author is lecturer in Geography at the University of Leicester.

## Scottish figures under fire

by Olga Wojtas  
Scottish Correspondent

The principal of Edinburgh University has criticised Scottish Office projections which show a substantial decrease in demand for higher education.

Earlier this year, Dr John Burnett claimed that revised figures from the Department of Education and Science still underestimated potential demand.

The latest Scottish Office statistical bulletin shows a fall in the number of 17-year-olds over the next decade to 60 per cent of its peak two years ago.

And it hints that the universities may come off badly in the fight for entrants, with more going to central institutions and further education colleges.

But Dr Burnett warned that using

the numbers of 17-year-olds as a guide did not provide an accurate picture.

"The number of 17-year-olds varies very much between the Scottish universities, and a number have significantly higher proportions of older entrants from south of the border."

Dr Burnett also said that the report assumed that the present balance of men and women students would continue, whereas he believed there was still room for a large increase in female entrants.

Principal Alwyn Williams of Glasgow University has accused the Government of "preparing to dismantle the university system" on the basis of projected numbers of school leavers, which he said were notoriously difficult to interpret.

Sir Alwyn, who was addressing the university's general council, said he hoped public opinion would not tolerate such irrational policies, which myopically assumed that the country could not afford to be as well educated as its main competitors.

The university system was heading for a breakdown if rumours of "privatization" of funding were true. There were hints that universities would be required to meet up to 30 per cent of their expenditure from private sources.

Glasgow has just agreed to set up a trust for funds from benefactions and endowments, but Sir Alwyn said that although it was among the 11 best endowed institutions in the country, this represented only 2½ per cent of its revenue.

## The binary system - from both sides

by Ngaio Crequer

Trans-binary cooperation is essential to implement a policy to strengthen rather than weaken the higher education system, Mr Peter Brooke, secretary of state for higher education, said last week.

Mr Brooke, who was making the opening address at the eighth Royal Festival Hall conference, organized by the North East London Polytechnic, on "The Evolution of a Binary System of Education" 20 years on.

He said that everyone had to be conscious that as resources were constrained, there would be pressure to adopt the easy option, equal misery for all. But this would only lead to the impoverishment of every institution and the enhancement of none.

Sir Peter Swinerton-Dyer, chairman of the University Grants Committee, said there were five components to the binary divide:

- The style and dignity of a university, in which a university has a chancellor, charter, and power to bestow its own degrees.
- The nature of teaching. In general university teaching was designed for full-time 18-year-olds, the polytechnics covered that as well as a range of part-time, mature and post-experience students.
- Research. Once people said that all universities did research and polytechnics did not, which was false, and then that universities did pure research, and the polytechnics applied, which was false and unhelpful. Every teacher had the duty to carry out scholarship, but nobody on either side of the line had a duty to do research.
- External influences on the courses. Sir Peter said he was not clear what kind of external influences on courses were right. Those in professional courses such as law and medicine had done good, but some others might merely generate extra work.
- Self-government. Ultimate author-

ity in the universities now lay in councils rather than senates. The majority of councils were lay members so universities began to look like polytechnics. To say that council was self-governing, but the polytechnics were not, was to make a distinction which was not true.

Dr Ray Rickett, director of Mid-diesex Polytechnic said the administrative differences between the sectors could not justify different validation, salaries, unit costs, methods of awarding degrees or physical provision.

The Department of Education and Science, in a paper on inter-sectoral costs had justified the difference on the grounds that universities did research, and polytechnics did not.

But even if a 25 per cent weighting was introduced for research in universities the difference was still £500 per student. In recent times the position had worsened because of the decision of the National Advisory Body to cut the unit of resource by 11 per cent.

Inter-sectoral comparisons were seen in a more positive light by Mr John Bevan, secretary to the National Advisory Body. Comparisons of that sort were now inescapable in the future plans of higher education - and it must not be assumed that the difference in funding levels was wrong.

Mr Bevan described the two extremes of the higher education spectrum. At one end were universities like Lancaster and Kent, with more than two thirds of their students taking arts courses, an academic ethos of non-utilitarian scholarship, and a site amid green fields. At the other end were institutions like Bradford, Bolton and Huddersfield, two thirds of whose work was in science subjects, with a utilitarian-vocational ethos and a site that was "urban, dirty and multiple".

"It really won't do to pretend that a single funding system can meet the proper aspirations of so very disparate a set of institutions," he said.

The National Advisory Body Committee's final decision on the 1984/85 pool allocation, which is now the Secretary of State for Education, Sir Keith Joseph, compares favourably with the NAB board's first attempt to cut the cake in August this year. Only the smaller colleges are now worse off; the polytechnics and larger colleges have gained both from the extra £20m now in the pool and a different system of allocation.

POLYTECHNICS	1983/84 pool allocation (actual)	1984/85 final NAB committee allocation	Original proposed funding	COLLEGES	1983/84 pool allocation (actual)	1984/85 final NAB committee allocation	Original proposed funding
NELF	16,486	15,899	13,875	Ealing Coll HE	3,866	4,352	3,826
King's College	18,933	18,873	14,570	W London IHE	2,943	2,795	2,780
London	12,944	13,232	12,231	West Middle Coll	1,818	1,721	1,827
Birmingham	12,578	13,026	12,026	Bolton Coll HE	2,896	3,427	3,187
Coventry	13,721	13,795	13,108	Salford Coll	2,935	3,398	3,187
Wolverhampton	12,203	12,444	11,864	Bradford Coll	3,414	3,230	3,274
Liverpool	15,337	17,831	14,810	Brighton Hall	1,431	1,650	1,617
Manchester	22,888	23,136	22,434	SW London Coll	1,487	1,568	1,577
Sheffield	18,805	18,368	18,338	Avery Hill	2,458	2,324	2,478
Huddersfield	10,872	10,709	10,822	Gayme Coll	1,788	1,892	1,863
Leeds	14,005	14,709	14,925	Bath Coll HE	1,984	2,426	1,888
Newcastle	15,051	15,728	14,925	De Montfort Coll	1,985	1,775	1,888
Sunderland	8,717	10,008	9,705	Lux Coll HE	1,985	1,878	2,048
North London	10,817	11,223	10,429	Slough Coll HE	2,509	2,748	2,718
South Bank	14,178	14,257	12,974	Bulmers Coll HE	2,063	2,021	2,068
City of London	8,908	8,752	7,852	Bucks Coll HE	2,181	2,251	2,014
Thames	11,577	11,182	10,186	Campes Coll A&T	2,809	2,787	3,261
Bristol	13,299	13,939	13,402	Crawley & Alton	3,188	3,426	3,202
Teesdale	7,280	8,077	7,700	Doncaster Coll	4,145	3,925	4,160
Plymouth	8,152	10,356	9,855	Doncaster Coll	3,805	4,158	4,160
Brighton	12,893	12,884	12,337	New Coll Durham	1,810	1,792	1,818
Chichester	15,860	15,546	13,901	Chichester IHE	3,733	4,514	4,274
Gloucester	10,408	11,582	9,833	Glo Coll A&T	3,067	3,663	3,666
Leicester	9,486	9,413	9,789	So'lon Coll HE	3,183	3,833	2,123
Leeds	15,253	15,218	14,851	Worcester Coll HE	2,145	2,088	2,082
Nottingham	17,985	18,218	18,551	Hull Coll HE	5,770	5,068	5,131
Cardiff	9,541	9,882	9,136	Edge Hill Coll HE	2,723	3,081	3,253
North Wales	10,577	11,315	10,812	Wrexham Coll HE	3,066	3,054	3,024

## Entente cordiale extends to research

by Paul Flather

The first batch of 13 Franco-British collaborative research awards in the social sciences, covering areas such as defence, education, health and Arab studies, were announced this week.

The projects were agreed last year between the Social Science Research Council and the Centre National de la Recherche Scientifique (CNRS) in Paris. The SSRC is spending £225,000 and the CNRS about £135,000.

The agreement came after a meeting at Chateaux in 1981 when the Prime Minister Margaret Thatcher and President Francois Mitterrand decided to back collaboration in all scientific fields. In all, the SSRC has pledged £125,000 and the CNRS £135,000 for a five-year programme.

Details for the 13 awards were finalized two weeks ago when Mr. Maurice Goddard, director of the Science of Man and Society section of the CNRS met Sir Douglas Hago, SSRC chairman, during a short lecture visit to Britain.

Projects include a study of Islamic state and society in Africa linking Dr. Omar Cruise O'Brien of the School of Oriental and African Studies, London University, and Dr. Christian Clouet of Bordeaux University.

A comparative study of defence efforts links Birkbeck College, London, with Grenoble University, a study of educational styles links Professor S.

Muscovici of Paris with Dr. N. M. Enler of Dundee University, while a study of central-local government relations links the universities of Hull and Rennes.

The 13 were chosen from more than 90 applications, and the SSRC is hoping for even more applications for next year's awards to be in by April 1984. Priority areas are family and demographic trends, new technology, competitiveness, public expenditure, the evolution and effects of Islam, and Latin America or East Europe.

The awards come on top of existing postdoctoral and student exchange schemes between the two countries. Last year, 20 British scholars were able to work in France with SSRC support. The council runs exchange schemes with Sweden (14 scholars backed in 1982), China (13 scholars) and West Germany (17 scholars).

The SSRC also continues to support the Vienna Centre, the coordination centre for European research and documentation, and a member of the European Science Foundation and the International Federation of Social Science Organizations.

Further talks are to be held between SSRC and CNRS officials next month to discuss new collaborative work. Funds are to be found for specific comparative studies to be done in existing French and British research priority areas, and it is hoped to involve German research teams as well.

## Union investigates private YTS places

A large proportion of Youth Training Scheme places assigned to private training agencies in Birmingham and Solihull is being investigated by the National Association of Teachers in Further and Higher Education and the Trades Union Resources Centre.

Private training agencies have contracted to 50 per cent of all Mode A (employer-based) YTS places in the area while other employers and the local authority have been allocated only about 16 per cent of all such training, representing about 11 per cent of a total of 12,300 places on all schemes.

The extent of Mode A training in Birmingham was agreed by the local area manpower board, in spite of protests by the education service to which increased Mode B provision schemes run by local authorities and colleges on behalf of the MSC. This was turned down on the grounds that

there was plenty of Mode A provision. Birmingham Naftho is particularly concerned at the number of agencies because some of these appear to have been in business only a short time and there is doubt over their quality. One company claimed to have been in business for 13 years but in fact had been in operation for only two.

Another, it was rumoured, was a massage parlour before setting up as a training agency.

Naftho says that the growth of private training agencies in YTS has also become an issue. Only 8,500 places on all schemes have been filled, with 3,000 empty at the latest count. In some agencies occupancy was only 50 per cent.

Mr Paul Mackney, the Birmingham Naftho official investigating the agencies said that he expected some of these to go bust. "Indeed some were in a poor state before they started. And

## Back tax claim could stop merger

by Felicity Jones

A planned merger between two organizations which represent English language schools could run into trouble due to a claim made by HM Customs and Excise for back tax which could run into six figures.

The retiring treasurer of the Federation of English Language Course Organizations, Mr John Mucklejohn, gave the warning to his members after the books of the Association of Recognized English Language Schools were examined by tax officials. ARELS and FELCO are due to merge in January.

like FELCO, ARELS had never registered for VAT because it considered itself exempt. But Customs and Excise see no difference between the two bodies and are currently negotiating with ARELS over a claim for VAT back to 1973 which Mr Mucklejohn thought could be "very substantial" rising to over £100,000.

Mr Mucklejohn, who retires at the end of the month, said that he did not want to see his members enter into liabilities which they had not incurred. The annual general meeting of FELCO passed a motion that there should not be an amalgamation if the body was saddled with debts incurred

forehand. The articles of association for the merger do not at present include any clause giving protection to either party for bad debts. But as soon as the new joint body registers for VAT on January 1, the money collected by FELCO will be equally under threat.

Colonel Ray Arthur, general secretary of ARELS confirmed that discussions were being held with Customs and Excise but said it was a "private matter", the outcome of which would be made known to all members. However, he thought it unlikely that anything would be resolved before the merger went through.



A blind student demonstrates a sculpture which she made at the end of the first year of a pilot scheme for the teaching of sculpture to the visually handicapped run by Leicester University's department of adult education.

## New inquiry to fill hole

by Jon Turney

British dentists are trying to raise money for a study group to work out new approaches to fundamental problems of dental research. An appeal committee chaired by Lord Robens this week sent letters to potential industrial donors seeking funds for an independent academic inquiry into clinical dental investigation which would compare it with other fields of medicine.

There is dissatisfaction in the profession at the level of support for dental health research from the Government. The appeal letter points out that one in five of British adults have lost all their teeth and that dental services cost £700m in 1981 - the largest single item in the National Health Service budget after mental health.

In this light, state-backed research is pretty slim. The Medical Research Council for example supports just one dental research unit from its £100m-a-year budget. The research sponsors' argument is that there are too few outstanding dental researchers to justify heavier spending. The MRC is currently holding meetings to try and encourage on-dental scientists to consider dental problems.

However Professor Declan Anderson of Bristol University, president of the British Society for Dental Research and one of the organizers of the new appeal, wants to see a new approach. "A number of us have felt for some time that dental research should be looked at with a neutral eye," he said.

The aim of the appeal was to raise enough money to recruit outstanding scientists in the medical and biological disciplines to take a fresh look at dental research and report on key areas of lacking outstanding problems. The society will then try and find sources of funding.

PARTY LINE  
How to cut an inadequate cake

The recent National Advisory Body funding exercise has been a field day for the experts and vested interests. The technical arguments about the relative merits of the second sub quantum method versus the first sub quantum method or any other method have, as they so frequently do in these sort of circumstances, diverted discussion from the major issues. The strategy for the long-term future of advanced further education and the funding that it will need has been very much on the sidelines as the wrangling has gone on.

For too long individual Government departments and the sectors for which they are responsible have been dominated by the requirements of the Treasury to the exclusion of any rational debate about their objectives and their means of achieving them. Individual departments, particularly under this government, have become obsessed with achieving a cash objective without clear internal goals or a reflected objective. We see this clearly in the NAB funding exercise and Sir Keith Joseph's remarks in the House. In the NAB funding exercise the education budget for 1984/85 Sir Keith said: "The level of services that can be afforded within this total will again depend on the success of local authorities and others in containing their costs."

It is extraordinary and depressing that the head of such an important Government department should have to state that what level of service he wants to achieve, what resources he wants to take place, what goals he sets and how they fit in with other aspects of Government policy. Perhaps one of the reasons that we are no longer shocked by such a casual approach is that we have grown to expect it. The Treasury stranglehold on individual departments is now widespread and well-known.

We had another glaring example of Treasury power in recent weeks with its proposals for arbitrary increases in gas and electricity prices against the known wishes of Peter Walker (despite his public protests to the contrary) and the Department of Energy. Everyone, from the nationalized industries through to the NHS, education and local government services, has had to learn to live with the frustrating and often arbitrary imposition of cash limits in one form or another. Ministerial success is judged increasingly in the pounds and pence of privatization and cash limits. But irrespective of this particular government's adherence to monetarism and the Medium Term Financial Strategy I think it is a great pity that the reform being contemplated by Jim Callaghan, had he been returned to Number 10 in 1979, of splitting the Treasury in two has not been pursued further. It might have helped bring about a more sensible budgetary system.

The arbitrary cash limit approach to policy making is profoundly damaging to long-term planning. The AFE pool for 1984/85 has again been cut in real terms even assuming the Treasury's optimistic inflation forecasts. The result of the cuts is further botching and piecemeal patching up of our higher education system in the form of the NAB funding exercise.

The current drift of policy means that vital decisions are simply not being made or are being made by default. John Ashworth, the chancellor of Bathurst University, has recently pointed out that there is a choice between a mass higher education on the American model or a small, elite and high quality system. In his words, "and up with the wood of both worlds, with a higher education system which is both small and underfunded."

All the funding proposals considered by the NAB are unsatisfactory in so far as each one will inevitably damage some colleges or polytechnics more than others. In the absence of a coherent strategy, such damage will certainly appear unfair to those that get hurt most. As *The Times* has pointed out, the basic method would be to underfund, growing institutions like Teesside Polytechnic in particular.

my own area and the Bolton Institute of Higher Education. Other efficient institutions, like Plymouth Polytechnic, quite rightly complained when their increased efficiency appeared to be translated into a further reduction in resources and did not allow for an increase in services.

What makes this drift of policy particularly frustrating is that it is almost certainly happening for the wrong reasons. The Treasury exerts great power over individual departments but a strong Secretary of State, with the backing of the Prime Minister, and a strong political headwind can still achieve major initiatives and obtain substantial resources - even in this Government.

The establishment of the very expensive Youth Training Scheme by Norman Tebbit was an example of this. The YTS is a first step in the right direction for training for Britain's future needs. It is also a huge financial commitment which must have been an anathema to the Treasury. Similar political will and weight is lacking at the Department of Education and consequently it appears to be run increasingly from the Treasury.

A thorough reassessment of Britain's needs for further and higher education could well challenge some

of the fundamental assumptions which are still current in academic and political debate. The apparent acceptance in Government circles, for instance, that fewer people will be progressing to A levels because of demographic change is very dangerous. Britain's future and people's individual fulfillment demands a highly educated workforce. Only then can we produce the high value-added goods and services with which other nations are unlikely to be able to compete. The issue should not be how to cope with declining numbers of A level students but how to increase student numbers and how to increase the participation of women, mature students and underprivileged people who are currently under-represented in higher and further education. We should be concerned with how we can best improve and use the tremendous resources we have in further and higher education more effectively to serve people during the rest of this century.

I am deeply depressed that Sir Keith Joseph seems happy to allow the strategy of the education service to be determined by unifying squabbles over how to slice up an inadequate cake. A thriving Britain depends the long-term of a strong education system, with a sense of direction and of Government support, especially at its higher levels. I shall air this again in this column next month.

Ian Wrigglesworth

The author is the Social Democratic MP for Stockton South.







## overseas news

## Researchers consult oracle

from Geoff Maslen

MELBOURNE Australian university academics and the leaders of research projects in both industrial and government organizations have been invited to participate in an antipodean "think-tank" using Delphi methodologies to try to predict changes in the next five to ten years.

The Australian Technological Change Forum, a privately financed, non-profit-making group has been set up to use extensive consultations and computer projections to identify the direction and extent of emerging trends in technological change. It will then set out the options for managing that change.

The forum has been established by the Productivity Promotion Council of

Australia and is intended to help organizations avoid the trap of thinking that the future will be just like the past and the present, except there might be a bit more, or even a bit less of it.

The forum will publish reports to provide the public with an overview of emerging changes to help encourage debate and help industry and government plan appropriate strategies, according to a council official.

The council's confidence in the forum's success is based on the result of a series of futurology seminars held in 1979. They predicted that the oil panic would be short-lived and that the development of alternative energy sources would be severely hampered by too little money spread too thinly.

"In 1979, we were also extraordinarily accurate in computers," the official said. "In terms of both developments and their implications, we fixed 1984 fairly accurately."

He said the forum would be based on a reference group of about 500 people and this group would be asked to nominate 200 others considered to be most qualified in their fields. These 200 experts would select the most important processes of technological change, and the top 20 areas would then be examined thoroughly.

The Delphi method grew out of the American race to put a man on the moon in the 1960s. Its supporters say that because the pipeline in feeding through the effects is about five years long, it is remarkable how accurate practitioners can be in defining what changes will occur.

## Death sparks protests in Poland

A new anti-government campaign may soon be launched in Poland, in connection with official inquiries into the death last May of school-leaver Grzegorz Przemyski, the Polish press predicted last week.

It is expected that any campaign will become evident at first in the universities, particularly among first-year students who were Grzegorz Przemyski's contemporaries.

Grzegorz, who died a few days before his 18th birthday, was the son of the poet Barbara Sadowska, one of the leading figures in the Catholic church's relief committee for people interned under the martial law regulation and their dependants.

Grzegorz's arrest and subsequent death were widely considered to be a reprisal against his mother's activities. His funeral became the largest anti-government demonstration during the martial law period.

According to underground Solidarity sources, Grzegorz and a few of his friends visited a wine bar in the old city of Warsaw on their way home from their Matura (A level) exam.

On leaving they were stopped by uniformed police who asked to see their identity papers. Grzegorz said that he did not have his with him, and added that he was not obliged to do so since he was a Warsaw resident and the martial law ruling which obliged citizens to carry their papers at all times had been suspended.

The boys were taken to the police station where Grzegorz was viciously beaten with a truncheon in the presence of a friend, who reported later that the policeman urged each other to "hit him in the guts - that won't leave any marks". After this beating, Grzegorz was taken in a special "drunks ambulance" to the Hoza Street casualty station.

Afterwards at home Grzegorz's condition rapidly deteriorated. The next day, after considerable difficulty, his



Solidarity supporters move away from a cloud of tear gas as Polish riot police move in to disperse a rally.

mother managed to get him admitted to hospital, where it was found that his intestines had been crushed and he was beyond medical help. After several hours agony, and a subsequent 10-hour coma, he died on May 14.

His death was a signal for protests throughout Poland. Matura candidates boycotted school-leaving balls, although warned that they might be barred from university if they did not turn up. Teachers and university lecturers throughout the country signed letters of protest, followed by miners and factory workers. Underground Solidarity cells in Warsaw factories put wreaths on the grave.

Under this pressure, a government inquiry was initiated, but at first this was little more than a cover-up.

On September 7 the prosecutor's

office admitted that Grzegorz had suffered serious injuries both in the police station and in the casualty station and announced that the two policemen and two ambulance men would be charged with participation in the beatings.

Since September, many of Grzegorz's fellow Matura students have begun their university studies. On All Souls' Day his grave was decked in the Polish manner, with flowers and lights. But instead of the usual few bunches and candles, the ground was carpeted for many metres around.

The trial of the four accused is due to open "shortly" and on December 4 Warsaw papers carried warnings aimed at those who might make it an occasion for demonstrations.

## UN chooses Finland for economic institute

by Patricia Santinelli

A world Institute for Development Economic Research, the first independent research and training centre of the United Nations University is to be set up in early 1985 in Helsinki at a cost to Finland of some \$40m.

The decision was taken last week by the UNU council after year-long negotiations during which the Finns eventually outbid the Netherlands, another leading contender for the WIDER.

Finland's contribution to the UNU's endowment fund for WIDER now represents the second largest contribution the first being from Japan where the university has its headquarters.

Describing the offer as outstandingly generous, UNU rector Soedjatmoko said that the agreement marked a significant advance in the implementation of the university's medium term perspective.

He pointed out that the proposal for WIDER arose from the need for an integrated scientific effort of the highest quality that had been made urgent by the deepening economic difficulties of almost all countries, irrespective of their economic and social systems and levels of development.

The WIDER was first discussed at a London School of Economics meeting last year when it was agreed that existing economic and social approaches were inadequate to meet the policy challenges confronting the third world.

The UNU then decided that no existing institution could or was in a position to deal with these problems because of the limitation of national considerations as well as the need for a totally fresh approach.

The university was keen that the new institute's policy oriented work

on global economic problems should transcend such boundaries. For to achieve its objectives, WIDER would have not only to concern itself with the problem of industrialized countries but those of the south, both in relationship to the north but also on its own.

The institute's work is also intended to be multi-disciplinary and to adopt a global perspective in order to assess the impact of national policies on humanity as a whole.

Among the research topics, the institute is likely to be concerned with a study of the international impact of domestic policies, international public goods and the "free rider" problems, assessment and reform of the network of international economic organizations, the role of social security in both developed and developing countries the arms race and the economic disarmament, and cultural and religious values and economic motivation.

WIDER is also being envisaged as a small, pluralistic, interdisciplinary group of scholars researching aspects of the global economic system that affects the development prospects of the poorest countries.

In addition to its extensive research programme, the institute will have a training role, under which young scholars, especially from developing countries, will have an opportunity to participate in research. The emphasis will be on equipping them for similar efforts in institutions in their home countries.

The director of WIDER is expected to be a leading scholar in the developing countries, while the chairman of the board of trustees will be selected among eminent scholars in the industrialized world.

## Academics must attack social issues, says minister

from Jessica Kuper

LEIDEN The social sciences had made spectacular advances in the past 20 years and must start to deliver solutions to pressing social problems, Mr. Deetman, the Dutch minister of Education, told parliament.

He said that social science research, which is concentrated in the universities, was too closely tied to teaching programmes, and was inhibited by disciplinary narrowness.

His solution was for universities to set up faculty research institutes, each under the direction of a professor, which would address certain pressing themes. The institutes would also benefit from "professional management".

The issues on which these institutes should concentrate were labour relations, ethnic minorities, population issues, problems in public policy and the social and ethical implications of

new technologies. Special funds would be made available to stimulate the development of these research institutes.

The reaction of the social science community has been overwhelmingly negative. Professor Kohnstamm, dean of the faculty of social science at Leiden University, told the university newspaper that the minister seemed to want research on the whole population of the Netherlands "except for healthy middle-aged men".

He went on: "The minister wants the social sciences to come up with solutions to all the welfare problems which have come with the present recession and all with so extra budget of a million guilders. It is a crazy idea."

Other professors have expressed fears of growing bureaucratization and central control. Professor Crombag, head of the Centre for Research in Teaching Methods, commented that ministry policy itself was to check.

## Private university planned

from Barbara von Ow

MUNICH A new private university is planned for the Bavarian city of Munich, with a total of 15,000 DM (£7,500) contribution fee from 1985 under plans for the second private university in West Germany.

The project for an International European University in Ingolstadt, 40 miles north of Munich, was submitted to the Bavarian culture ministry by the Society for the Promotion of Science and Education earlier this month.

The society, founded in 1982 and based in Munich, groups doctors, scientists and industrialists, including representatives of IBM, the electronics giant.

The plan is to start with only 120 students in medicine and second to medical technology, pharmacy, and dentistry from 1988 to reach a final capacity of about 1,500 students, said the society's director, Dieter Theil.

The Bavarian project is modelled on the American university of Maryland, from which it will draw some of its teachers. The plan is to have a total of 100-150 teachers, with a mix of full-time and part-time staff.

The fees will be closely connected. While there will be no numerous clause restrictions like at German state universities, the students will have to pay fees which Thelen admits will create social barriers. But the society aims to obtain scholarships for at least 20 per cent of the students, he stressed.

The fees will help ensure a balanced budget with a net income of 1.8 million marks in the first year and 10.8 million marks after six years, Thelen said. Costs for a planned university building will amount to some 15 million marks.

Apart from the academic qualifications of staff and students, financial security is the main criterion for approval by the state authorities, a culture ministry official said. He said it was too early for an official assessment of the Ingolstadt project. Thelen hopes the go-ahead will be given in mid-1984.

West Germany's first private university opened in Herbolzheim, north of Frankfurt, with 27 academic disciplines from a total of 6,000 applicants this year. There are no plans to restrict numbers further in medicine, dentistry, physiotherapy and physical education.

## Perfect match

The Dutch government plans to match student entry to graduate job prospects. A parliamentary bill will attempt to restrict numbers further in medicine, dentistry, physiotherapy and physical education.

## California puts a ban on staff/student romance

from Charlotte Beyers

PALO ALTO

The University of California's academic senate has voted 20-14 to forbid romantic relations between the faculty and their students.

After a complicated, impassioned debate at the Berkeley campus the professors adopted a resolution noting that such relationships, "even when mutually welcomed" represented a serious breach of professional conduct.

A faculty member who initiates with a current student a personal relationship with romantic or sexual implications or intentions, or who acquiesces in such a relationship initiated by a current student, can seriously compromise the student-teacher relationship," the resolution continued.

Furthermore, such relationships raise questions of fairness in grading and other academic matters and leave the faculty members vulnerable to charges of sexual harassment and discrimination.

The academic senate invited the faculty committee that drafted the measure to submit a request that the prohibition be included in the faculty code of ethics which would include penalties for non-compliance.

The romance ban applies only to a faculty member's current students. It does not apply to faculty members and students in general, or to students and faculty who have romantic liaisons before or after they are academically linked.



Richard Abrams, a UC Berkeley history professor, and chairman of the committee that drafted the resolution, said it was a logical extension of the university's policies against sexual harassment policies focus on unwelcome sexual advances, the romance ban speaks against even mutually desired relationships of an implied or explicit romantic or sexual nature.

In a report that accompanied the resolution, Abrams argued: "Even a single advance to a student by an instructor can poison the environment not merely between the instructor and the student, but between the teacher and other students in the class under his supervision - and all of this whether or not the advance was welcome, invited or rebuffed."

Many of the faculty members at the meeting observed that such a resolution was simply not needed.

"Everybody knows that teachers shouldn't sleep with students. Some things are so obvious to civilized people that they shouldn't be in the rule book," noted Ray Redheffer, a maths professor.

He explained that few professors arrived in class drunk or naked even though no specific prohibitions against doing so exists. He argued that the romance resolution would only succeed in raising suspicions among the public as to what is happening on campus.

Redheffer said that his observations at the UCLA indicated that such a

measure wasn't really needed because affairs between teachers and students are rare.

"I'm sorry it is not extremely rare," responded UC-Davis law professor, Carol Bruch. "Several of my colleagues need to be reminded frequently."

History professor Albert Lindemann, from Santa Barbara, said: "The problem is not that there is a large percentage of faculty members having affairs with their students. It is really that there is a small number who do it a hell of a lot."

Regardless of the scope of the problem, some professors complained that the resolution was meaningless because even if it were put in the ethics code, it could be enforced only by turning teachers into love police.

An informal sampling of opinions among the UC Berkeley undergraduates revealed they would prefer policies to err on the side of romance rather than ethics.

Borany Pheng, a senior, said: "I don't think it's the rule of the school to tell professors and students how to behave."

Herant Katchadourian, professor in the department of psychiatry at Stanford who teaches a course in human sexuality, said he had mixed feelings about the resolution.

"It could be called gratuitous. We don't list all the things that faculty and students should not do," he said. "But, on the other hand, it could serve as a conscious-raising measure."

## University opens with controversy

from A. S. Abraham

BOMBAY

India's newest university at Kottayam in Kerala state in south India has been founded amid a fierce political and academic controversy which began well before its inauguration by the country's president in October. Gandhiji University (named after the Mahatma), was created by a special ordinance aimed not at extending higher education to new regions but a making existing arrangements less unwieldy administratively.

The 215 colleges in Kerala (as against a mere nine 25 years ago) have until now been affiliated to the three traditional universities of Calicut, Cochin and Kerala, the last of these alone with 127 colleges and 600,000 students under its wing. Sixty-four of these have now been put under the jurisdiction of the new university.

The establishment of Gandhiji University is widely viewed in the state as a step by the present non-communist coalition provincial government, led by Mrs. Gandhi's Congress party, to secure the Christian vote. More than half the colleges affiliated to it are Christian-run, while the central Travancore area, the catchment area, is largely Christian. The Christian population has long demanded a fully fledged university.

But students, academics and others are unhappy at the way the new university is designed to be run. They see it as a local legislator ban put it, as a stepping stone to a new era of government control of universities.

Specifically, as many as nine out of 23 members of the Syndicate, the main decision-making body, will be nominated by the government. The provincial education minister will make all the key appointments, with the Syndicate only submitting a panel of names. The government has the right to issue directives to the university, while all the authorities of the university have been made subject to the power of the chancellor, who is the governor of the state and a political appointee. Even jobs with state salaries of less than \$30 a month must be approved by the local government.

The Kerala education minister, proud that Gandhiji University has been set up "in record time", says that the government will not abridge university autonomy, but "at the same time" it will have some reasonable control over its economic and administrative functioning.

## Overseas policies 'will harm Ontario'

from Mark Gerson

TORONTO

Unless the Ontario government reconsiders its tuition policies for foreign graduate students, the province's graduate schools will be harmed. That warning came last month when the Council of Ontario Universities, which represents Ontario's university presidents called on the provincial government to cancel a projected fee increase for non-Canadians and provide more financial assistance to help them offset current fee levels.

Visa students now pay \$6,930 a year to take a graduate course in an Ontario university. An increase to \$9,240 scheduled for September 1983 was postponed, but the council wants it abandoned and the current fee lowered. Tuition for Canadian graduate students is \$1,500 per year.

According to the council, the high fees have made numbers of foreign graduate students decline 16 per cent since 1981. The number of new visa students entering graduate programmes in the province has dropped 41 per cent in the same period, it claimed.

Outstanding students from abroad contribute to the strength and international reputation of Ontario's universities and act as goodwill ambassadors when they return to their native countries, said the council.

It is "crucially important" that graduate programmes include a mix of international students, but this will only happen if the financial burden on these students is lessened, said the council. It warned that Ontario universities risk losing "much of the international component of their graduate schools, with all the adverse implications such a risk would entail."

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## Testing time for America's private examiners

from E. Patrick McQuaid

PRINCETON

The chief executive officer for America's largest designer and distributor of standardized tests has taken a bold step to protect the integrity of the private industry. In the past the Educational Testing Service has issued guidelines to its clients noting that decisions on admissions, hiring and promotion should never be made solely on the basis of test results but in the wake of institutional "abuse". Mr. Gregory Arrig said that the company will not service offenders.

While ETS is known mainly for its Scholastic Aptitude Test, used by most colleges and universities to review applicants, Mr. Arrig was responding to school districts that are using the national teacher exam; to determine the salary and rank of employed staff who are candidates for promotion.

"It seems just plain wrong to tell someone who has been judged a satisfactory teacher for 10 or 15 or 20 years that the passing of one test on one day is necessary to keep his or her job or salary as a teacher," said Mr. Arrig.

The State of Arkansas recently approved legislation to require all public school teachers to take the exam next year. Teachers would have to pass the battery of tests by 1987 or face dismissal proceedings, Mr. Arrig made known.

the announcement in Arkansas while attending a meeting of the council of chief state school officers. He had earlier warned that the state's governor, Mr. Bill Clinton, that ETS did not approve of the government's plans.

Staff should be judged "on teaching competencies as determined directly by the supervisory and evaluation procedures of the employing school district", he noted. "Once employed, direct classroom supervision and evaluation of the teachers are possible and essential to teaching competence, in addition to academic knowledge, that cannot be measured directly by any paper-and-pencil examination."

Standardized tests are not designed, he continued, to measure "dedication, sensitivity, perseverance and caring". The Arkansas plan would use the test to "belittle" professionals, he charged.

Inadequately prepared teachers have been cited as a main ingredient in a recipe for failure to a string of government and independent studies of American schools this past year. The teacher exam was designed for education-school graduates seeking local or state certification. Sixteen states use the ETS exam or a modified version of it for that purpose.

The wisdom of standardized tests for college applicants has come under fire from some scholars. The Carnegie

Report on Secondary Schooling suggests the exam be used mainly as a guidance service to help students determine where their strengths lie and what options they might seek. A number of major universities, including Harvard, are rethinking their admissions policies as a result of the debate.

A study earlier this year concluded that most American colleges judge applicants on their secondary school grades and their scores on the standardized tests.

An interesting footnote to the Arkansas initiative: The Reagan government plans to implement new pay and lay-off rules for federal employees that the Congress had legislated out of existence before adjourning last month. One high-ranking official said the complicated five-tier performance rating system, similar to various teacher merit pay plans, "is a return to the spoils system". Employees would be scored more on the basis of their relationship to their supervisors than their performance, he suggested.

The Congress ruled that the Office of Personnel Management may not spend any money to implement the plan and in characteristic arrogance, the office has since determined that federal agencies and departments must implement the plan at their own expense. The unions have indicated they will take the government to court.

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## 'Dog show' causes art row

from Benny Morris

JERUSALEM

A struggle between Haifa University administration and lecturers from the university's art department has ended with the defeat of the lecturers and the removal of four politically controversial paintings from an exhibition the department's artist-lecturers are staging. Many university lecturers regarded the matter as a test case for freedom of expression on campus.

The affair began when university president Yusef Teicher, just hours before the opening of the exhibition, ordered the removal of a series of paintings by lecturer Avisha Eyal, entitled "Arab dog - Hebrew labour".

The paintings depicted Eyal's impressions from a stint of military reserve duty at the Ansar detention camp in southern Lebanon.

The camp, set up by the Israel defence forces in the wake of its June 1982 invasion of Southern Lebanon, housed thousands of Palestinians and Lebanese suspected of membership or support of the PLO. The camp was last month emptied of its last 4,500 prisoners, when they were exchanged for six Israeli soldiers held captive by the PLO since September 1982.

At the exhibition's opening ceremony, a number of speakers defined the removal of the Eyal paintings as "detrimental to freedom of expression and academic freedom". After the removal of the paintings, the organizers painted in heavy black letters "painting removed" in the empty spaces and threatened that if the pictures were not restored, the exhibition would be closed.

University President Teicher said that he had ordered the paintings removed "only" because they might provoke political violence on campus.

Eyal, head of the arts department's creative section, said he began the paintings last October serving at Ansar. "What I saw at Ansar caused me a big shock. I saw a lot of people and dogs. I understood the Lebanese (by looking) at the dogs; beaten dogs, stray dogs, dogs afraid of people. The dogs I saw prompted in me a surge of emotion."

Eyal entitled his pictures individually: "A bad Arab dog", "A good Arab dog", "A pink Arab dog" and "Arab dog".

At the opening ceremony, the dean of the faculty of humanities Professor Larry Davies sided with Eyal and severely attacked Teicher for curbing freedom of expression. Professor Davies said: "After looking at them, I have reached the conclusion that they do not endanger the public."

Last weekend Teicher and the painter-lecturers agreed to leave the exhibition open and to place four non-controversial works by Eyal on display instead of the ones removed.

Teicher told reporters that a university must uphold freedom of expression "but only up to a point".

Meanwhile, the Israeli military authorities in the occupied West Bank permitted the reopening of the Catholic University of Bethlehem. The university was closed by military order last month for 60 days following days of anti-Israeli rioting and rock-throwing by students.

The reopening followed a meeting between the coordinator of activities in the West Bank and Gaza, Brigadier-General Binyamin Ben-Eliezer, and university vice-chancellor Brother Thomas Scamion and Rector Dr. Anton Samar.

Scamion and Samar promised to prevent further disturbances on campus.

Last week, Alunajah University in Nablus, another West Bank trouble spot in effect shut down for a few days after Israeli security forces placed roadblocks and checked ID cards at the entrances to the campus.

The roadblocks went up after a campus guard was beaten, presumably by Jewish settlers from nearby Jewish settlements. A Jewish settler had been attacked and wounded with an axe in the centre of Nablus the day before.

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# Research strategies for the 1980s

Philippa Ingram talks to David Watt, about his time as director of Chatham House

"If the people understand that there are principles other than the apparent immediate interest of their own country which must be applied in international affairs, governments will pay heed to them. The tragedy is that over a great part of the world the people are not allowed to know anything except what their governments tell them, and no voice of criticism can be raised."

"If there were a Chatham House in Moscow and Warsaw, in Prague, Bucharest, and Sofia, how much more hopeful would the world outlook be."

The words are Clement Attlee's. The occasion the thirtieth anniversary dinner of the Royal Institute of International Affairs (or Chatham House as it is generally known), held at the Guildhall in 1949. Then the Institute's reputation had probably never stood higher. Its invaluable wartime advisory service to the Foreign Office and its postwar studies of the problems of political reconstruction in Europe, combined with its authoritative surveys of international affairs, meant it uniquely combined academic research with practical analysis and advice.

Certainly it would be hard to imagine such favourable sentiments as Prime Minister Attlee's issuing from Mrs Thatcher today. Her attitude to disinterested expert advice has been all too clearly demonstrated by the abrupt closure of the Central Policy Review Staff or government "think tank" earlier this year. The anti-intellectual ethos of the present government combined with recession and the financial squeeze on the whole of higher education has indeed made times hard for all the independent research institutes and Chatham House in many ways typifies their precarious situation.

"Finance has been the most difficult aspect of the last six years," said David Watt, reflecting on his period as director of Chatham House which expires at the end of this month when he hands over to Admiral Sir James Eberle.

Income had been falling for 10 years but the big blow, from which the institute is still trying to recover, was the loss two years ago of the Foreign and Commonwealth Office index-linked general grant amounting to 8 per cent of total income. This year it would have been £65,000. The FCO's rationalization of its action was that the intellectual independence of the institute should be matched by financial independence. But this argument could have been advanced at any time, and in fact like all government departments the FCO was looking for ways to trim its expenditure at the margin.

"It was just easier to cut our grant than a secretary in the Washington Embassy. Now we are the only country in Europe which does not subsidize the comparable institution," said David Watt.

So Chatham House has been left to compete with the other independent institutes and, increasingly, with the universities at the same unimpressive level. Needing an annual income of £450,000, about one third of this is provided by investment income from the original endowment, another third from membership fees, while grants from foundations and individuals (usually in the form of backing for a specific project) make up the rest.

The institute has responded to its financial vicissitudes both by modest entrepreneurial activities (organizing half-day conferences for business people, for example, though not international jamborees - and by cost-cutting measures. The most painful of these measures, certainly the one which has provoked the most criticism, and even a letter to *The Times*, is the decision to contract the famous press cutting library. This superb archive of over eight million clippings, many of them from inaccessible foreign papers, was begun in 1925 as a research aid.

In a detailed letter sent to members in May, David Watt set out the plan to reduce drastically the numbers of papers cut. The justification was simple: the service was both underused and too expensive. In an average six months in 1982 it was used by 146 individual members and the staff of 65 firms - it handles on average 8,000

inquiries a year at a cost of £126,000 (in 1982/3) or more than £15 an inquiry. The books and periodicals library costs about the same amount, but is used far more and the plan is eventually to merge the two in a more economic operation.

Realistic fee charging was considered, but by putting the whole archive far outside the means of most academic researchers, it would defeat its whole purpose. However, apart from a Nuffield Foundation donation four years ago, the institute has been unable to find permanent support for the press library and attempts to exploit the archive commercially have run into "insuperable difficulties over copyright".

The press cuttings library is of course incredibly useful to an academic minority. And the decision to reduce what David Watt has called "the Rolls Royce service" to something more like a Ford Escort has provoked criticism of the director and provided an opportunity to question the very *raison d'être* of Chatham House in the 1980s.

The doubts raised by detractors range wide and are sometimes contradictory. They argue that the academic rationale of the institute has long since been overtaken by the universities; that other independent research institutes, such as the Institute for Strategic Studies, have eroded its traditional scholarly domain; that it is too elitist; and finally, and most damagingly, that it has gone downhill academically.

The arguments are exaggerated, but do they contain a core of truth?

When the idea for a centre where specialists could study and discuss the problems of international affairs was first proposed by Lionel Curtis in 1919 nothing similar existed. There were no international relations faculties in the universities and the study of history stopped at 1890. Curtis, a member of the British delegation to the Paris Peace Conference, felt strongly along with a group of fellow delegates that the absence of serious study of contemporary history was at least partly to blame for the disastrous state of international relations.

No one would seriously want to deny that since then, and particularly since the end of the Second World War, the situation has changed out of all recognition; both international relations and contemporary historical studies are firmly established in universities and polytechnics. But it would be foolish to suggest that Chatham House has not always responded as swiftly as it should, nevertheless it has modified its study and publishing programmes to take account of changes outside.

Early projects were large scale: a



Director David Watt (left) and his successor, Admiral Sir James Eberle, on the steps of Chatham House, Sir James takes over at the end of the month.

six-volume history of the Peace Conference and the launching of the vast annual survey and documents of international affairs under the direction of Professor A. J. Toynbee. The survey finally stuttered to a halt in 1973 with the publication of the first of the 1963 volumes. The anonymous *TLS* reviewer remarked that the decision to end the series was logical. It had proved an almost superhuman task to catch up with the wartime backlog. And more seriously:

"As the Documents volume came out later and later and became more and more expensive, it began obviously to fall between the two stools of contemporary publication and the release of official documents under the new 30-year rule."

Professor Toynbee's long tenure at Chatham House was also typified by large theoretical studies of international relations, an area that it has now entirely ceded to the universities. Given their expansion into contemporary history as well, what does this leave for the institute today? David Watt's reply is policy studies: "The line between contemporary history and policy studies is a narrow one," he admits, "but it does exist."

The Policy Studies Unit, which he created within Chatham House to promote this function more clearly, than before, specializes in producing papers on topics of public interest (nuclear weapons, energy) both more quickly and more briefly than typical academic research, but in greater

depth than journalism.

This is work which he feels still needs to be carried out in the setting of an independent research institute. On one hand he considers that the universities remain reluctant to direct scholarship too closely to contemporary issues, and those academics who do employ an inappropriate level of discourse. On the other hand, Whitehall has a vested interest in avoiding - or at least not publicizing - awkward questions.

"Now that government is so complicated and public opinion so much more educated, the need for reliable information and analysis against which official policy on foreign affairs can be judged is greater than ever. The Americans have been involved in policy studies for years, and I think that Chatham House can reasonably claim to be the pioneer in this country."

Although David Watt has slightly shifted the balance from pure academic research to the short-term work of the unit, the former remains a major function. There are between 10 and 20 academics employed on contracts typically lasting two years. The subject emphasis has changed over the years. Latin American studies, a major topic in the 1960s, is now well catered for by universities. During Andrew Schonfield's time as director, the EEC and Japan were favourite topics. David Watt has continued the interest in Japan, but has promoted Middle East studies, especially with reference to energy, and above all the Atlantic relationship. International economic issues also figure much more prominently than they used to and are the subject of an individual research programme.

The main thing was to identify the next key area in advance. He forces regional studies and Soviet studies as likely subjects for his successor.

Naturally, he repudiates accusations of intellectual decline at Chatham House. Judged by its recent publications record, its intellectual standing seems to remain very high. A few examples include an important paper by Lawrence Freedman (now professor of war studies at King's College London), *Britain and Nuclear Weapons*; another on the threat of a third oil supply crisis by Robert B. Graves, a former director of BP; and another on the need for more sensitive Western policies towards the Gulf states by Valerie Yorke, a research associate.

Chatham House is also less exclusive than it used to be. Membership of the institute has been broadened. To become a member individual members need to be a graduate, and officially you are supposed to have "a specialized knowledge of some aspect of international affairs", but this latter requirement has been deliberately relaxed. "The institute used to be a bit stuffy on the question of membership qualifications, a genuine interest in the subject is sufficient."

Independent institutes have multiplied since the foundation of Chatham House and even if they are competing for the same funds or indeed because they are, cooperation is the order of the day. Chatham House has a joint publishing programme with the Policy Studies Institute and the National Institute of Economic and Social Research and a joint energy research programme with the PSI. Close relations were established with the new Centre for Economic Policy Research, run by Professor Richard Porter, when it was still at the planning stage. Its offices are, deliberately, close by and they share library facilities and "mild intellectualism".

Such cooperation is not trivial but David Watt feels a great opportunity was missed in the 1970s to bring a number of independent institutes together. This goes back to the time when Dr Ralf Dahrendorf, director of the London School of Economics, was trying to launch his plan for a so-called British Brookings institute. One of his policy studies organizations was the stumbling block. It was not considered a serious enough project to justify the opposition from the existing institutes which felt, rightly, that this project would split up their funds from the limited pool available and duplicate many of their activities.

A far better idea and one that he would still like to see carried out would be to accommodate all the different bodies in one central London building provided by the government at a peppercorn rent. Here, running costs could be minimized. Sir James Watt could sell its prime St James's Square site and cooperation could be maximized in a stimulating environment. The whole would be more than the sum of its parts.

# Storm clouds gathering

"A bolt from the blue", "stunned", "appalled", are fast becoming well-worn expressions among staff at West Midlands College of Higher Education when asked for their reactions to a brief letter which arrived just four months ago.

The sense of shock at finding the very existence of the college was under threat as a result of the planning exercise carried out by the National Advisory Body for public sector higher education remains, together with a creeping belief among some staff that sinister forces have been at work.

This letter, from NAB secretary Mr John Bevan, proposed that the college's three mainstream degree courses should be phased out from 1984, bad news in itself. But it went on: "We recognize that this must call into question the ability of the institution to continue to offer its teacher training courses."

That quite explicit threat of closure, marking West Midlands out as one of just two institutions likely to be erased from the educational map as a result of the current exercise, has mobilized staff and students, local politicians and MPs (irrespective of party) and educationalists in its defence.

For if the college sees its role in providing its three diversified degree courses as useful, both regionally and nationally, it regards its teacher education role as vital.

The college brought hope of a brighter educational future to the depressed Black Country when it opened solely for teacher education in 1963. The local authorities had experienced tremendous difficulties in tempting teachers away from more favoured areas and the experience of the past 20 years has, they believe, proved the college's worth. Some 70 per cent of its teacher education students now remain in the Black Country after graduation.

But 20 years after it opened its doors, having survived the turmoil of contraction of teacher education in the 1970s, there is the real prospect that this may end. Closure, the college's supporters believe, will deal a further blow to a region which has already suffered disproportionately from the recession, high unemployment and the social and educational demands of large concentrations of the ethnic minorities.

The campaign has been taken directly to the NAB and raised in Parliament. But despite a spirited defence during the NAB's residential weekend

in Eastbourne in October, the die was cast when the secretary's recommendations were confirmed by a 13-5 vote at the end of the longest debate in that marathon session.

With no reprieve from last month's NAB committee, the college's fate now rests with Sir Keith Joseph, Secretary of State for Education. Its most staunch support has come from its funding borough, Walsall, and from nearby Sandwell. Local opposition to the proposals was summarized in a letter to MPs from Councillor Stan Ball, Walsall's mayor.

It spoke of a "sense of shock and incredulity" with which the news had been received.

The otherwise politically-volatile borough council sank its differences and carried a unanimous resolution of protest, emphasizing the value of the college in a borough with a legacy of urban deprivation and its vital role in the wider area.

Parliamentary questions, MPs' deputations to ministers and face to face meetings with NAB officials and board chairman Mr Christopher Bell, have left the college none the wiser about the true reasons for a decision.

Questioned in the House of Lords, the Earl of Swinton, the Conservative deputy chief whip, promised peers that Sir Keith would have to consider NAB's advice not only on its own merits but in relation to its impact on the institution as a whole.

He added: "I agree that Sir Keith will need to reach a judgment on the prospects of the college continuing as an institution devoted exclusively to teacher training."

"If those prospects do not appear favourable, the NAB's proposals will have to be weighted against the possible loss of this college's contribution to teacher education."

These words have only spurred the college to renewed efforts to convince ministers that it has been treated unjustly in the NAB exercise and deserves a reprieve. It bases its case on the care and determination with which it has over the years tried to follow central government policies.

In the late 1970s many of the surviving colleges of education were tempted into an easy diversification by transferring or retraining teachers to allied academic disciplines. West Midlands adhered strictly to DEB advice and took another, more expensive route. It branched out into areas where it predicted a demand for an academic

David Jobbins looks at the reaction of West Midlands College to the NAB closure threat

approach coupled with practical and relevant skills.

Walsall underwrote the costly process which involved recruitment of new staff, an expensive option when diversification in other less relevant directions would not have brought additional staffing commitments. Now, ironically, just as the local community seems poised to benefit from the fruits of its investment, that process may be aborted.

With teacher education, the college has nailed to the primary mast in line with last autumn's decisions and has developed a key role in in-service provision for a wide area.

There was widespread surprise when West Midlands appeared as one of only two confirmed probable closures from the early indications of "six or so" institutions at risk.

"We weren't even on my own list of possibilities," one senior member of staff said. Many lecturers are sceptical about NAB's assurances that no institutional view was taken before advice on course programmes was pulled together. According to NAB, only then was it discovered that all three of West Midlands' non-teacher training degree courses were on the list.

All three were in less favoured programme areas but the college argues that each is sufficiently high in quality and distinctiveness to survive, and that other forces must have been at work.

Conspiracy theories run rife in such circumstances, despite denials of the existence of a "hit list" with the college's name on it. But in the absence of real answers to the inevitable "Why us?" questions, every scrap of evidence is seized upon.

Of the five identified criteria on which NAB based its advice, only quality of the courses within the programmes seems to have had an effect, yet the college can point to evidence from a number of sources in support of the courses under a death sentence.



Students from West Midlands College occupy Metropolitan House, London, to protest at the National Advisory Board's recommendations.

One of the handful of courses given approval by Her Majesty's Inspectorate after the shutters came down on innovations is the college BA in visual communications studies.

Its aim is to equip students with the necessary skills, perspectives and attitudes for work in industry with video, photography and printing.

Given the rare accolade in Council for National Academic Awards terminology of being of "particular quality", it is one of the few in the country so completely equipping students for the real world.

Mr Gerald Howarth, Conservative MP for Cannock and Burnwood, said after a visit to the college: "I was particularly impressed by the visual communications course. It is precisely the kind of course necessary to train young people in the arts of tomorrow." Just as vocational in the college's

eyes is its BA in leisure and recreational studies, described by the CNA as "rare and of quality".

Like the BA/BA honours combined humanities course, the course offers ideal opportunities for women to gain qualifications and employment skills in developing areas without having to overcome the built-in barriers to science and technology created by the schools system. And despite the uncertainty, applications are up on last year for all three BA courses.

Humanities courses may have appeared an easy target, but the college feels NAB has made a serious error by hitting the West Midlands. Principal Mr Tim Cox is under no illusions for the future. "We are being used as a piñata for the rest of the sector. If NAB can do this to us, what will happen to quite a selection of other colleges over the coming years?"

Peter Scott describes the resilient attitude at Hull University, one of the hardest hit by the University Grants Committee cuts

# A better place than we're led to believe

Few people at Hull imagine that it is the University Grants Committee's favourite university. Among the hardest hit in July 1981 when it suffered a 20 per cent cut, Hull declined to accept the UGC's advice to close down its drama and history of art departments.

More recently it was "fined", when fines were still in fashion at Park Crescent, for not reducing its student number fast enough to meet the allocated target. Hull, after a rather bitter battle, was not so long ago that the UGC was encouraging it to expand rather more zealously than seemed sensible in its own judgment, argued that it was merely bawling out to the students for as long as possible to enjoy their fee income but would still meet the reduced target. The UGC was unmoved.

Today Hull remains one of the few universities that has still not quite put its financial house in order. The number of academic and other staff that have left is still not quite sufficient to enable the university to look forward to a steady state budget. The age structure was not favourable, because of the UGC-inspired late burst of expansion, and perhaps the sense of crisis was not as pervasively intense as at Aston or Salford.

Now there is the prospect of further cuts, less catastrophic perhaps than in 1981 but still a sombre prospect for a university that has barely got over this earlier shock. As a university clearly opposing with a preponderance of arts at a time when all the smart political money is on science, Hull could not be blamed for feeling apprehensive.

Yet the predominant feeling at Hull is not one of gathering gloom and despair. The atmosphere on campus, even intimate, is one of a resilience that seems to be made up of equal parts of a strong belief that Hull is a lot better university than it is and even angrier and a stub-

born refusal to accept that the UGC's world-view of British universities is the only legitimate one.

The belief is easy to explain. Hull was awarded three "new blood" posts, rather more than its size and subject mix would have justified. It was a judgment of July 1981 would have suggested. The most natural conclusion is that judged department by department Hull must appear a significantly stronger institution than it appears in the broad-brush institutional picture that has mesmerized the UGC.

This conclusion is certainly borne out by two typical Hull departments - engineering design and manufacturing - a new department that seems a model of how universities should cooperate with industry and appears to have thought of the conclusions of the Finniston committee before its report was even published; and chemistry, a backdoor science department which has pioneered the study of liquid crystals.

The head of engineering design and manufacturing is Professor David Morris, a persuasive Welshman who moved from Sussex in 1979 to start up the new department. His favourite phrase is "stare wisdom" which is one of the main objectives of his four-year bachelor of engineering degree.

Professor Morris believes that in many engineering departments the emphasis is too much on analysis, normally of theoretical problems to which there is only one correct answer. The result is students who suffer from

tunnel vision. The emphasis in his new department is on creativity, design, open-ended problems with lots of answers of differing merit, and - inevitably - student workload.

He believes that because the Hull department was new he and his colleagues had the opportunity to rethink the whole structure of a four-year engineering degree from scratch rather than simply having to extend an existing three-year course "by putting a cherry on the cake - a bit of design here, a bit of management there".

The result - to sustain the fast-food metaphor - has been to produce "the whole beefburger rather than playing around with some new arrangement of thick or thin sandwiches", says Professor Morris.

A 12-week block of workshop training in the Hull College of Further Education early on in the course fulfils many of the conditions of the EA (Engineering Applications) block suggested by Finniston, and subsequent periods in an "industrial laboratory" in friendly local companies and in joint industrial research teams fulfil the conditions of BA2.

The department has established a high level engineering foundation committee of industrial sponsors that include British Aerospace, BP Chemicals, GEC, and ICI. Research is under way in three areas, thermal design problems in turbines, surface coating technology, and design for economic manufacture. The next step is to establish masters courses.

Chemistry at Hull presents a rather different picture, but still an impres-

sive one if in a rather old way. It has a reasonable claim to be regarded as the birth place of serious study of liquid crystals, a research interest that goes back to the late 1940s long before the explosive applications of this technology could have been conceived.

But chemistry is not a single achievement department. It received one of Hull's "new blood" posts, in analytical chemistry, and since 1980/81 has increased its external research funding by almost a third and the number of its research students from 18 in the year of the UGC cuts to 28 in the current session.

Yet the department has come under pressure. Six academic staff out of a total of 26 have gone; the entry of 60 undergraduates a year into the department has been cut to 45; and this reduction in intake was one reason why the department decided to drop its comparatively new degree in medicinal chemistry. They are now left with two degrees in straight chemistry and a string of joint honours degrees.

So morale not surprisingly is a little wobbly. The university has been hard hit by the UGC. The defence faculty has had to find compensating cuts to make room for new developments - for example, in engineering. Hull has an arts majority which Professor Gray admits can feel oppressive at times. Above all the artificial restriction of undergraduate numbers poses a long-term risk to the health of graduate and research work.

The other side of Hull's resilience, the refusal to accept the UGC's view as final, is also clear. On more than one occasion university and committee have clashed the "line" for overcutting on student intakes being only the most conspicuous.

In the late 1970s when the clouds were already gathering Hull made a number of appointments to chairs. In

the eyes of the UGC that may have seemed bad housekeeping, but in the eyes of Hull these were crucial appointments that can provide the academic bedrock of the university through the 1980s.

There seems to have been a similar conflict of views over student numbers. The UGC clearly felt that Hull was "over-studented", some in the university might have agreed had it not been for the memory that it was encouragement of the UGC in the 1970s that had produced this situation and for the conviction that the UGC's determination to protect the unit of resource at all costs was far too rigid.

But the most celebrated clash came with the university's refusal to close the departments of drama and history of art in the UGC and proposed. Mr Donald Roy, head of drama, still recalls with gratitude how all the university rallied to their defence.

The lesson of the Hull experience since 1981 is that the world can look very different whether viewed from Park Crescent, London W1, or Cottingham Road, Hull. The gap between these perceptions is one of the wider dangers of centralizing decisions in a single all-powerful agency. It is not so much that Hull (or Aston or Salford) is right and the UGC wrong, but that both may be right or wrong in different ways.

To the case of Hull there have been fundamental clashes of view - about drama and the history of art, about student numbers. But there has also grown up a more surreptitious dislocation between how the university sees its present standing and future direction and how these are apparently regarded by the UGC.

The evidence on the ground suggests that Hull's own view of itself should perhaps be taken more seriously than the UGC's shadowy but immensely influential judgement.



William Makin explores the influence of the priest and physicist Gassendi on his contemporaries

## Navigating for Newton...

The port of Marseilles, its arsenal and fleet of galleys, exercised a peculiar fascination for seventeenth-century tourists. Robert Boyle arrived, in 1642, in time to watch the fleet preparing for a royal review. Four years later John Evelyn was rowed by the crew of the flagship *La Reale* and devoted two pages of his diary to the experience. Thirty years afterwards, John Locke did the same. Morbid curiosity? Perhaps Englishmen, reared on heroic tales of the Argo, Ulysses or Salamis, experienced a thrill on confronting the reality. Mlle Scudery, the novelist, exclaimed: "I have always thought a love so romantic—but now I have seen the galleys, I shall see that the word is excluded from poetic literature." The motive power for these floating masterpieces of baroque design was provided by thousands of chained convicts—mostly peasants who had been caught in protests against increased taxation.

Locke, the arch-enemy of absolutism, blamed all France's ills on excessive taxation of the peasantry. For him the galleys had obvious political messages. But what of Boyle and Evelyn? Was there some other factor, common to all three?

In 1640 a Provencal priest, Gassendi, an enthusiastic natural philosopher, had been lent the fastest galley in the fleet to use in various experiments to test the soundness of Galileo's physics. This was an appropriate choice. Galileo's prohibited *Chief World Systems* frequently appealed to nautical examples, and his *Two New Sciences* was set in the arsenal for the Venetian navy—on which those at Marseilles and Toulon had been modelled. In his account of these experiments, published in 1642, Gassendi outlined a corpuscular theory of universal gravitation, defined rectilinear inertia (Newton's first law), and demanded new physics based on Galilean relativity. Could Gassendi be the missing link between our tourists?

Boyle's autobiography—which abruptly breaks off with the description of the galley fleet—explains that he had been staying near Galileo's villa in Florence, prior to his journey to Marseilles. He had spent his time reading Galileo's treatises. Gassendi's influence on Boyle's subsequent scientific career can be traced in his corpuscularism, his repudiation of the doctrine of a fixed number of elements, and his efforts to repeat some of Galileo's experiments.

Evelyn, who was resident in France for long periods, was intimate with a number of Gassendi's close friends, including Hobbes and Kenelm Digby. Back in England he threw himself into the movement to revive atomism and, in 1657, one of his relatives translated Gassendi's *Life of Peiresius* and dedicated it to Evelyn. This was the only occasion on which he entered Gassendi's name in his journal. But Evelyn himself translated books by La Motte Le Voyer and Gabriel Naudé. Both were French free-thinkers—outwardly conforming to Catholicism—who had been initiated into a Pythagorean society called *Tétractis*. Its founder was Gassendi. Despite the apparent orthodoxy of his writings—almost alone of contemporary scientists they escaped the Index in their entirety—Gassendi was, secretly, a Christian. A saint in Provence, an atheist in Paris, quipped Voltaire. Gassendi was not an atheist in the literal sense, but he founded a society in which unorthodoxy could be freely ventilated, in the assurance of perfect confidentiality.

Locke was a secret Arian, a believer which he shared with Newton, who trusted him with the knowledge of his own unorthodoxy. During his several years in France his principal confidant was Dr. Bernier, an old pupil of Gassendi's then engaged in translating his work from Latin into French. He met the Prince de Conti, whose family had protected Gassendi in the 1640s. In his suite was the illegitimate son of the governor of Provence, who had suggested that Gassendi should use the *Reale* for the 1640 experiment. Locke borrowed two major ideas from Gassendi, without acknowledgement: the empiricist psychology of his *Human Understanding*, and the theory that political power grows out of a primary

contract to preserve property.

When Boyle died, Popps wrote a letter to Evelyn that has perplexed historians: "Let . . . Mr Newton and myself have the pleasure of your company (Mr Boyle being gone) for we shall want your help in thinking of another in England fit to be set up as our Peiresius too. Why should Peiresius, who was chiefly remarkable for the length with which Gassendi chronicled his life, first published in 1642, be so important? He became the centre of an intellectual *cul-de-sac*, inspiring a popular restoration comedy and a scene in *Tristram Shandy*. His derelict villa, near Toulon, became a place of pilgrimage.

A year before his death, Peiresius addressed himself to a problem in navigation. Data from the lunar eclipse of 1636 suggested a major error in the calculation of longitude in the eastern Mediterranean. When he put this to a meeting of merchants and mariners they protested their maps were sound. Did they not reach their destinations? With Gassendi's assistance Peiresius undertook to show that their charts might incorporate a substantial distortion of distance and yet bring them to port. Gassendi attached such importance to this question that he elaborated it in a treatise on the ancient Greek navigator Pytheas, also of Marseilles.

As the ship sails from Malta to Crete, according to the chart it should follow a straight line. But Crete is really NW of its imaginary position (c) along the coast. Some circumstance, unknown to the navigator is deflecting his course along the vector (Aa). His actual voyage is therefore along the diagonal of the parallelogram of forces (AB), so that he reaches Crete after all. Gassendi makes an astonishing variety of suggestions about the possible cause of this deflection: the pilot might have been misled by Kepler's calculation of the longitude or by Gilbert's errors over magnetic variation. He might be drunk, or the crew might quarrel, or they could swerve to avoid a head-on collision. It is a Rabelaisian, ship-of-fools notion of navigating. "A solution to this problem may be of great assistance in solving another matter which has preoccupied us of late." Which matter? This he never reveals.

But what did Galileo make of the *Pytheas* when, after being duly scrutinized by the authorities, it fell into his hands shortly before he went blind? He might recall that he had used a similar route in his prohibited dialogues to illustrate the relativity of motion; and that Kepler, on the Index since 1616, had used the theory of navigation to illustrate his ideas on celestial mechanics. These were ideas which Galileo repudiated—but he not disowned the idea of action at a distance. Gassendi was treating this very problem. Mediterranean pilots might brawl, or get drunk, but they did not navigate by studying Kepler or Gilbert. When Gassendi wrote of "the need to correct Kepler, who in other matters is so accurate", he meant the need to explain Kepler's success in prediction, while rejecting his celestial mechanics. The references to Gilbert recalled Kepler's use of his magnetic theory to explain the elliptical orbit. A planet is like a ship on an easterly sea, driven along by a magnetic wind, or perhaps a current, blowing from the sun. The ship has a sun-repelling pole and a sun-attracting pole. When it reaches the furthest point of its ellipse, its demonic "holmsman" was programmed—according to Kepler's laws—to switch from his sun-repelling to his sun-attracting pole.

How can we be sure that a critique of Kepler's Copernican astronomy was intended by Gassendi? Rather Boulliau, in his treatise *Philolaus*, which Newton praised in his *Principia*, set out to split the diamond of Kepler's *Cosmology* into its astronomical and speculative components. The three laws were to be retained but the magnetic mysticism set aside entirely. Boulliau suggested that an assumption of gravitational attraction would be sufficient to derive the elliptical orbits without any magic or magisterial revelation.



But what grounds were there for supposing that Kepler's physics was erroneous, when his system gave the best predictions? Boulliau wrote: "My friend M Gassendi, who has supplied many of the observations in this work (about a third) has pointed to the example of those Mediterranean mariners, who followed charts leading them in a right line. Their actual course followed a curve." This was the meaning of Gassendi's diagram: the lines (Ae), (Bd) represent the inertial velocity of a planet; the lines (Aa), (Bb), the centripetal force of the sun. Gassendi gave the proportions of (Aa) to (Ae) as 1:32 and added that the parallelograms could be repeated indefinitely—which would result in an ellipse. Newton has a similar diagram in *Principia* to illustrate the formation of an ellipse. But he employed the principle of fluxions to explain how each diagonal of the parallelogram diminished, as the time intervals became vanishingly small, so that the resultant was a smooth curve. There seems to be a discrepancy between Gassendi's diagram, which shows right lines, and Boulliau's confidence that the ship would follow a curve. Here is one example of the superior firepower which Newton's mind was able to bring to bear.

Were the sources of Gassendi's confidence empirical rather than deductive? In 1645 he was impressed by the coincidences that another of his collaborators, Father Wendelin, had applied Kepler's third law to Jupiter and his satellites. At the same time, Gassendi and Boulliau had discovered that Kepler's laws, within a certain margin of error, applied to the moon: "It is marvellous that our two sets of observations match", he wrote to Wendelin. But because he was aware of how easily astronomers confused coincidence with verification, or confirmation of one part of their system refused to speculate. "Be content with your tables," he wrote to Wendelin, "they will form the bricks in an edifice which posterity must roof, and let that be your monument." (And Wendelin was indeed honoured with a citation in the *Principia*.) It is the vain desire for fame which leads men to cover up their hypotheses instead of seeking congruence with the phenomena. Therefore, let us not blush at leaving mistakes for posterity to set right. Let others frame the hypothesis; for men in every age to come will labour on this structure. If the ancients had left nothing to be discovered, how would we have occupied our leisure? Let posterity say the same of us.

This is only a partial explanation of "heap of broken images". He was, however, free throughout his life from the shadow of the clerical ban on Copernican physics. Hence the mask of antiquity, the spurious treatises entitled *Philolaus*, *Pytheas*, *Eudoxus* to conceal projected innovation. Hence the computational use of ciphers; the Rabelaisian navigations; and the lodging of vital components of a single theory

among extraneous material in several different works. Gabriel Naudé, another member of the *Tétractis*, wrote: "A man's thought is free—even in the most repressive tyranny—if he will but learn to wear a mask." Naudé was librarian to the Pope who condemned Galileo and to Cardinal Mazarin.

But the perils of betrayal were real enough. Naudé fled to Sweden and Gassendi was threatened by Cardinal Mazarin's informers—a sort of *police générale*—who accused him of "secret Copernicanism, secret atheism and political conspiracies". That was, on the whole, a fair summary of his areas of interest.

Although no case was ever brought, Gassendi's pupil Bernier fled to India soon after Gassendi died, to escape what he termed "the long arm of the Cardinal Minister". Someone had suggested to Mazarin that if Bernier were tortured he might divulge his master's secrets. Only when Mazarin was dead did Bernier return, which is how he came to befriend Locke during his three years' stay in France. Either Locke had an equally dramatic escape, when Cavalieri—Galileo's old pupil—met him secretly on the borders of Papal territory and warned him of his imminent arrest by the Inquisition. He escaped to Constantinople on a British warship. Under these circumstances it is easy to see that a Catholic Newton would have been unthinkable; and the fanatical hatred which Newton had of Popery becomes more comprehensible.

Historians have puzzled over Newton's claim that he had found his philosophy hidden in symbolic form "in sundry fragments" by ancient authors, which could be reconstituted as the key to his *Principia*. He gave the names of some of these ancient: *Philolaus*, *Archytas*, *Democritus*. None of the writings of these philosophers has survived, except in scraps of quotations. On the other hand, all three writers were used as a smoke-screen by Gassendi, or members of his circle, in their efforts to pursue a Copernican physics in secrecy. Gassendi's colleague at the Collège Royal, Roberval, wrote a treatise called *Archytas*, in which he pretended to be translating a lost text that advocated replacing Kepler's laws with mutual and universal gravitation. Innate in matter, Roberval had written a treatise on the composition of forces, which contained the clue to compounding centripetal force with inertia to generate an ellipse. He wrote: "Action and reaction are equal and opposite, which is why the oarsmen in our galleys look one way and row another." It is easy to be deceived by the appearance of antiquarianism. But, as Gassendi and his circle looked back into the remote past, they saw visions of the future. "The true symbol of our Peiresius," wrote Rand to Evelyn, "is this god Janus."

Because of the success of their cover-up it is difficult to determine how close Gassendi came to whether calculation of longitude guided this age. Did he realize the relationship

between Kepler's laws and Newton's laws, all of which can be found embedded in his sprawling treatises? Did he grasp that Galileo and Kepler held the two halves of a universal science of motion? The fact that he sent his diagram to Galileo suggests that he did. A few months after Galileo's death and Newton's birth, he wrote to the Jesuit H. Fabri: "I recently wrote to a friend concerning Galileo's law of falling bodies, which my own experiments have verified to be approximately correct, though observation is very difficult. Although no task could be more abstruse and laborious than that from Galileo's proportion, which is also the law of the pendulum, might be derived the whole origin and variety of the celestial motions. Indeed, if we adopted that theory for which Galileo was censured, it might be done as easily as you mathematicians derive all the secrets of dimension from the fluxion of a single point."

The unnamed "friend" was none other than the brilliant French mathematician, Pierre Fermat, who had sent Gassendi a mathematical demonstration of Galileo's law, based on a new principle for calculating such curves as parabolas, ellipses and hyperbolas by infinite series. As for Fabri, though he refuted Copernicanism in his writings in obedience to his superiors—he was evidently sympathetic to Gassendi, "It may well happen," he wrote soon after Gassendi's death, "that the Church will adopt a different attitude to scripture if a demonstration for Copernicanism is ever found. Leibniz mentioned Fermat as one of the precursors of the method whose prior discovery he disputed with Newton—Calculus."

Gassendi asserted what Newton and others later proved, wrote Voltaire, who is the only source for an alleged aside by Newton to a French scientific delegation, very near the end of his life: "M Gassendi? I regard your countryman as a most exact and wise thinker. I glory in being of his opinion on many questions." If the questions authentic, why did Newton not acknowledge Gassendi in his writings? Gassendi's reputation for secret infidelity, which accounts for Voltaire's interest, was already strong in the 1660s. Meric Casaubon argued that whatever Gassendi's own beliefs might be, his writings were an engine for the overthrow of Christianity which had been "set on work" by a cabal of French aristocrats.

Boyle, Locke, Newton, Evelyn—did they constitute a sort of English *Tétractis*? All borrowed from Gassendi, without acknowledgement. And all found a model in the obscure Peiresius. Locke, it is true, mocked at the Rosicrucians and the "Invisibles" in his *Papal journal*—but so had Gabriel Naudé and Gassendi. No one has ever satisfactorily explained what Boyle meant by his "invisible college" and perhaps no one ever will. But his only references to it come from the 1640s, immediately after his return from France. Boyle confessed to having lost all faith in Christianity around 1617. He was assisted in this crisis by spiritual advice from a Protestant pastor—John Diodati—a relative of Boyle's tutor.

John Diodati's cousin was Eli Diodati, a Parisian lawyer, who published Galileo's manuscripts clandestinely abroad. Eli was Gassendi's intermediary in communicating with Galileo during his imprisonment at Arcetri, and the fourth member of the *Tétractis*. John Diodati was a close collaborator with Friar Paolo Sarpi in his campaign against the Papacy, publishing clandestine editions of his anti-Catholic writings. It was to Sarpi that Galileo had first confided his Copernicanism and his discovery of the law of acceleration. A recent study, by Dr. Woolton has conclusively demonstrated that Sarpi—a friend and correspondent of Peiresius—was a secret unbeliever.

As early as 1623, Gassendi had written: "I launch my work into the heavens, like the ship of Pytheas which in Lucian's fable sailed to the moon. It is not for the vulgar (that is the university professors) who are the wretches who row our galleys and actually come to prefer sores and callouses to any boost labour, and love to hear their overseer—Aristotle—kick the whip."

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One of the more controversial proposals put forward by the Leverhulme report on the future of higher education was for two-year initial courses which would be less specialized than the traditional honours degree.

"Breadth and the ability to integrate different ideas have intellectual as well as practical value," the report said. This is an interesting order of adjectives in view of the report's general concern with the relationship between industry and education, but it has been ignored by both the Left (who view the two-year proposal as education on the cheap) and the Right, who are concerned with safeguarding standards and preserving the honours degree.

The "two year" tag has, in fact, deflected discussion from the main point that the Society for Research into Higher Education (which includes Christopher Ball, chairman of the National Advisory Body) wished to make: that the honours degree is fast becoming obsolete. "In the probable employment conditions of the 1980s and 1990s very specialized first degrees are likely to be even less appropriate than they were in the 1960s."

This is very clear and to the point, whatever one thinks of the two-year proposal. But it is doubtful whether many polytechnic lecturers share the view taken by "well over half" of their university colleagues. They have instead, been heading resolutely in the opposite direction, especially in engineering and electronics degrees.

Faculty ownership and control of students has increased to the point where students are enrolled, processed through their induction course, handed their timetable and taught by the same handful of lecturers who constitute their faculty. The students respond by internalizing a faculty identity as an "engineer" or "biologist" from the day he or she sets foot on campus, although they are no closer to being engineers or biologists at this stage than the rest of us.

One of the ironies of the cuts and the infamous NAB "exercise" is that they have promoted the very condition they are seeking to abolish. Faculty ownership of students has become an indispensable prerequisite for promoting new courses, hiring new staff and securing higher status in the institution generally.

The emphasis on unit costs and staff-student ratios has faculty heads counting their students obsessively. The specialization of courses follows inevitably, not because students are all



## Owning their students

John Daniel looks at the way academic departments exercise proprietary rights over their students

honours degree material, but because the dangers of releasing students to other faculties are too great to risk.

The supporting ideology for this process involves ignoring pleas for "integrated degree schemes in which students are able to experience the methods of thought of several disciplinary perspectives" and emphasizing the vocational imperative, which is generally considered to be in the air, or behind the NAB's injunctions, or just plain common sense. It needs no justifying and therefore receives none.

The ideology remains fossilized since the pre-Robbins posture was when students came to colleges of advanced technology or technical colleges not because they wished to enter a particular institution, or even to gain access to higher education, but to acquire professional qualifications for

a job. The cuts and the NAB have merely confirmed what many polytechnic lecturers believed anyway: that specialization is the name of the academic game.

Yet in the past 20 years the polytechnics have grown into national institutions, committed to producing graduates on a par with the universities. Apart from the injustices of the binary divide, they have failed to assist themselves in this process by herding students ever more fiercely into faculties instead of releasing them into the wider spaces of campus life.

The net result is that today's polytechnic students may know more about one subject than their predecessors did 20 years ago, but their capacity for adaptability, for handling general concepts or for critical questioning remains as undeveloped as ever.

The gap—or hiccup—in the educational programme was recognized from the beginning, and an elaborate mosaic of "service" subjects, cobbled together in typical British fashion, was designed to cover the holes. But over the years the servicing "input" has been transformed from a gesture towards multi-discipline study to a series of ancillary subjects all catering to the honours degree.

The parent faculty has absorbed these "extras" and, in some cases, taken over from the teaching as well. The result has inevitably been to increase political in-fighting among staff and among students to present them with even more of an academic turn-of-mind than they had before.

"Servicing" was never a genuine interdisciplinary exercise but it is fast deteriorating into a fringe area subject

to "rationalization" (ie meeting vast numbers of students as infrequently possible). If this process continues it is only a matter of time before a polytechnic campus consists of a number of isolated monothemes ranged around an empty space. Any pretensions to "flexibility" or "interaction" will then be little more than a joke.

The obvious way out of this bleak prospect is to develop multidisciplinary modular degrees and this has been done in a number of polytechnics, particularly in the social sciences and humanities. The pitfalls of excessive specialization are avoided, but where there is a "mixed economy" of single honours degrees alongside modular developments—as there is in many polytechnics—the game does not really change. It just becomes more complicated.

Faculty heads continue to count "their" students and to manipulate the modular scheme to enhance those areas of specialization which bring greater prestige and power. Those faculties possessing specialized degrees developed earlier stand aloof and continue to rely on servicing instead of partaking in the modular scheme. Newcomers threaten the existing balance of power.

The real solution would be to dissolve the rigid compartmentalization on which faculty ownership of students is based and to plan at least one introductory year which gives all students a genuine sample of various disciplines across the institution. To continue the pretence that school-leavers with two A-levels are adequately educated for the modern world is absurd.

Most of them, naturally enough, retreat into their specializations as a way of avoiding confrontation with those "general powers of the mind" that Robbins advocated long ago and which the Leverhulme report is still advocating as a central aspect of employment conditions in the 1980s and 1990s. Faculty proprietary rights over students *ab initio* makes them more passive and the institution more fragmented.

The way ahead seems clear, but it is blocked by monolithic faculties whose interests are, at present, more powerful than the institutions which contain them or the students they serve.

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Sean McKee describes a striking instance of cooperation between industry and university mathematicians

The University Consortium for Industrial Numerical Analysis is a loose umbrella organization consisting of numerical analysts from five southern universities—Bath Brunel, Oxford, Reading and Imperial College, London—is an association with the division of information technology and computing of the National Physical Laboratory.

The principal aims of the consortium are to bring back real problems into the mathematics departments of universities while at the same time making available to British industry a high degree of expertise at minimal cost. The consortium is governed by a steering committee of senior representatives from the five universities, a coordinator and a representative from the NPL. The committee deals with policy and direction, the coordinator with day-to-day operations.

In 1969 Professor L. Fox and Dr A. Taylor started an organization at the University of Oxford which became known as the Oxford study group with industry. The aims were not dissimilar to the UCINA except that the group concentrates on mathematical modelling.

A few years later, Dr J. Ockendon took over as secretary and started holding one-week meetings in the autumn week of Hilary term, frequently the second week in March. During this week, industrialists and academics work, eat and drink together.

The latter pair is often as important as the first, since this is when the real problems often emerge. Problems which have started out as physical descriptions are transformed first into mathematical models or sequences of models which may then admit partial solution. Almost always, though, a numerical solution is required.

The numerical analysis from Oxford found themselves increasingly involved with the study group and it was this that led Professor Fox and Professor Bill Morton to set up the UCINA in 1979. The five universities were chosen because a ready-made existed in the form of joint research at one of the five.

The coordinator was briefed to build up contact with industry. The Oxford study group was able to provide a 10-year mailing list and Computer Survey which details all UK firms with computers and the way to which they put them, was another useful source.

A questionnaire was sent to all those firms which claimed to use numerical methods. The response was, predictably, small, however,

## Consortium learns to count on academic links with industry

via personal contacts, former students and others, a mailing list of 400—of which 250 are industrial contacts—has been built up and about 100 visits have been made to firms and individuals.

These were by and large to solicit problems for the open meetings held annually at Oxford University or Imperial College. At the meetings, industrialists present their problems and the academics offer solutions to previous problems. The coordinator is responsible for packaging problems in a way likely to be appealing to a numerical analyst.

The industrialist, of course, cannot expect their problems to be solved at one of these occasions. This has happened but it is rare. Usually contacts are made and the coordinator organizes a series of informal follow-up meetings.

Some firms or Government establishments do not like to give a public presentation. In these cases private meetings are arranged to protect either national security or industrial competition.

Areas of research fall within two main areas. Problems either belong to a branch of numerical analysis (numerical solutions of partial differential equations, approximation theory, etc) or into a branch of applied mathematics (stress analysis, fluid flow).

The former is often too rigid. A problem might be reformulated and a totally different solution technique is then required.

The industrial range is almost as wide. The Central Electricity Generating Board has referred problems on fluid flow, galvanic corrosion, non-destructive testing, aging in steel, particles flowing in turbulent fluid, optimal control and gear-box vibration. Rolls Royce has provided problems in numerical conformal transformation and eigenvalue techniques.

Other firms have mathematical problems in specific areas. Pilkington Brothers are almost exclusively concerned with the flow of molten glass while British American Tobacco is particularly interested in combustion with flow through a porous medium. Studies associated with energy have played an

two-point boundary value problem through the boundary conditions are not clear and the usual routines break down. This starting point led to considerable analysis and the development of further models.

These are only a small selection of the 60 problems considered by the UCINA during the four years of its operation. The original Science and Engineering Research Council funding was for three years but was extended on the understanding that the UCINA make itself self-financing thereafter.

If the UCINA were to be changed into a specialist software house on a proper commercial footing its survival would be guaranteed. It was felt, though, that the proper balance between academia and industry should be maintained.

The UCINA contacted the firms who had presented problems and suggested a contribution of around £1,000 per year for three years in return for further service. The response from British industry was, on the whole, admirable and many firms wanted no more than nominal services such as two annual lectures on some mutually agreed topic.

In some cases, firms wanted consultancy either in the form of commanding UCINA's services for up to 10 days a year when a problem arose or once a month on a specific problem with a definite objective. Other firms wanted to be kept up to date on existing literature and software.

Twelve firms have so far contributed and more may do so. The Department of Industry has been approached and they have agreed to underwrite any shortfall in the £25,000 that the UCINA requires annually to keep alive.

The consortium has thus every chance of surviving beyond 1987. It is even hoped that the university situation will have improved far enough for the coordinator at that time to be offered a post at one of the five universities.

However, if all the funding comes from a university there is a danger that only problems of strong academic interest will be tackled. The ideal solution seems to be funding half from industry and half from a university. In this way a sense of realism is maintained, providing the proper balance between academia and industry.

The author is coordinator of the UCINA. His Industrial Numerical Analysis, co-edited by Dr C. Elliott, will be published by Oxford University Press early next year.







## BOOKS

### Latent theories

Authenticity and Learning: Nietzsche's educational philosophy  
by David E. Cooper  
Routledge & Kegan Paul, £11.95  
ISBN 0 7100 9552 X  
Nietzsche in German Politics and Society, 1890-1918  
by R. Hinton Thomas  
Manchester University Press, £16.50  
ISBN 0 7190 0932 2

For Nietzsche, no less than for Plato and Rousseau, philosophy is centrally concerned with education. The philosophical soul must not only be liberated from stultifying conventional opinions, it must be educated to new possibilities.

But if philosophy is in important measure about education, Nietzsche must (so one supposes) at least implicitly if not explicitly make available a philosophy of education. David E. Cooper's intention is in tenso out a latent theory of education from Nietzsche's philosophy, with the help of some suggestions from Heidegger's work.

Cooper suggests that the key to Nietzsche's educational philosophy is "the concept of authenticity". There are abundant problems with this notion, as Cooper is well aware. He begins by taking care to repudiate a couple of the ridiculous views commonly associated with the idea of authenticity. He then reconstructs a more satisfactory conception, interpreting Nietzsche in the light of Heidegger's discussion of authenticity in *Being and Time*.

Cooper draws freely upon the whole gamut of contemporary philosophy, from H.-O. Gadamer, Jürgen Habermas, and Michel Foucault to Donald

Davidson, W. V. Quine, and Hilary Putnam. There are illuminating digressions on "technicism", liberal education, and other important subjects. Some of the exposition of Nietzsche is acute; the chapter on Nietzsche's epistemology is particularly helpful. But we are not really offered more than snippets of Nietzsche's views about education proper (as opposed to extrapolations from his views about knowledge and morality), and the suspicion arises that a distinctive Nietzschean teaching on the nature of education is, at best, rather elusive. Whether the idea of the authentic individual should be the defining term of such a philosophy of education is, in any case, even more dubious.

What Cooper means by authenticity is not the liberation of whim and subjectivity, nor the discovery of one's "true" self, but something more like the capacity to rethink and re-evaluate one's attitudes to one's life and purposes within a concrete and bounded situation. An example of this would be the insight gained by the hero in André Gide's novel *The Immoralist* that the dedication to the life of scholarship that had been his pride, that indeed had been his whole life, "now seemed to him to have a mere accidental and conventional connection with myself. I found out that I was something different... that I had a separate existence of my own." Properly construed, the idea of authenticity is meant to place Nietzsche within the "aesthetic education" tradition of Schiller and Goethe.

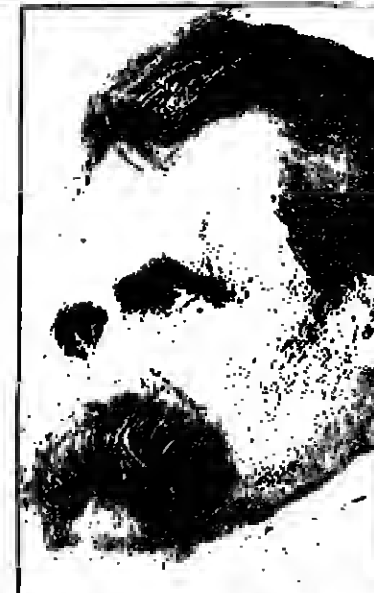
Despite Cooper's efforts to give a non-subjectivist sense to the idea of authenticity, I believe that his reading of Nietzsche is too much coloured by the early Heidegger, and that the object of Nietzsche's educational policy (as sketched in his writings of the 1870s) had more to do with the fostering of a sound public culture than with the cultivation of authentic individuals. Nietzsche did not wish to loosen or relax the imposition and enforcement of cultural norms; on the contrary, he wanted to render them more effective in resisting the centrifugal tendencies of modernity.

In his famous essay on historiography, for instance, the concern is not

with opening up horizons so that individuals could freely re-evaluate their self-understanding, but rather with erecting more durable horizons that would prove less vulnerable to nihilistic fragmentation. In fact, it was one of his main charges against the historical culture of the nineteenth century (and the proof of its nihilism) that it gave us too much insight into our situation, and thereby rendered impossible such horizons of action and purpose. The more we reflect on who we are and where we are headed, the less able we are to act. That is why Nietzsche is fearful of an education that is overly obsessed with the acquisition of knowledge.

Cooper proves quite resourceful in reconciling seeming contradictions in the position he ascribes to Nietzsche, but difficulties remain. For one thing, Cooper gives a very clear account of Nietzsche's genealogical critique of the idea of the moral subject, but he omits to explain how this is compatible with the possibility of living a life that is "truly one's own", implicit in the ideal of authenticity. A related problem arises over Nietzsche's notion of the need for masks. Cooper says on several occasions that the authentic self will be able to shed the masks it must (regrettably) wear in society. However, it is a simplification of the problem of self-knowledge, as Nietzsche sees it, to think that one will ever be in a position to discard one's masks, even in one's own presence, as it were. This, too, casts a question mark over the suitability of the concept of authenticity for interpreting Nietzsche.

For anyone who has read the work of Nietzsche, it should be plain that his writings offered no comfort to nationalists, antisemites, and other reactionaries in Wilhelmian Germany. It is not entirely surprising, therefore, that some German reactionaries actually gained awareness of this. To demonstrate this fact is the main burden of Professor Hinton Thomas's



Nietzsche by Hans Olde, 1899

book; "to get the record straight", as he says. It may be somewhat more surprising that Nietzsche's writings were embraced by certain socialists, anarchists, and feminists of the time, for Nietzsche was no less scathing about those ideologies. However, does it really matter much whether passages in Nietzsche's work were exploited more by ideologies of the right or ideologies of the left? Surely, a thinker who exalts the value of perspectivism will be ripe for citation out of context from all sorts of ideological positions, both left and right. What Professor Thomas conspicuously fails to do is to offer any account of Nietzsche's thought that would transcend ideologies altogether.

Ronald Beiner

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## Roads to freedom

Marx's Ethics of Freedom  
by George G. Brenkert  
Routledge & Kegan Paul, £14.95  
ISBN 0 7100 9461 2

Did Marx have a moral theory? It is easy to show that there are values and commitments implicit in his theories of history, capitalism and revolution and in his views about human nature and communist possibility. The passion with which Marx denounced contemporary conditions in Europe, the ferocity of his revolutionism, and his insistence that an adequate understanding of the world involved a radical determination to change it make it impossible to give any positivistic interpretation of his occasional pretensions to the status of "scientist".

It is tempting to say, therefore, that Marx's writings conceal an implicit moral theory that can be drawn out, reconstructed, and then compared and contrasted with the more explicit work of other great moral philosophers. This appears to be the thesis of George Brenkert's book.

Brenkert claims that a careful reading of Marx's work reveals that he did hold a moral theory in the sense of "an (essentially) consistent body of ethical judgments" derived "in a more or less conscious way from a common foundation." That seems a plausible claim, but we need to bear in mind the substantive view. Marx depicted moral philosophers and he would certainly not have counted himself among their number. He returned deliberately from setting out any explicit views on the nature of virtue, the good for man, and the possibility of ethical knowledge. Arguably, he betrayed the radical nature of Marx's enterprise by seeking to locate him in a philosophical tradition which he rejected.

The foundation of Marx's ethics, Brenkert claims, is a certain conception of freedom. This conception differs in two ways from what Brenkert calls "the bourgeois view of freedom". First, the familiar point that freedom for Marx means more than absence of external compulsion; it involves the possibility of positive self-determination and fulfillment in the life of a community. Secondly, it has a different normative force from the bourgeois notion. Marxian freedom is not a right which can be claimed against others, but a goal which must be achieved by the community as a whole.

criticised, not because capitalists oppress people or violate principles of respect for freedom, but because that form of society makes it impossible for people to be free and live the life of freedom. His insistence on this distinction and the light that it sheds on what Marx said about freedom are the most interesting aspects of Brenkert's book.

The immediate context of Brenkert's enterprise is the debate (mainly among American political philosophers) about whether Marx holds a theory of justice (in the sense, say, that John Rawls does). Brenkert is, in my view rightly, on the side of those who say he did not. The concept of justice can be understood in broader or a narrower sense. In the broader sense, it comprehends the whole of ethics; and, although in this sense it is trivially true that a moralising Marx had a theory of justice, still freedom is an equally comprehensive idea and remains the better concept to capture the essence of Marxian values. In the narrower sense of distributive justice, Marx would have nothing to do with justice as a transcendent value. Justice in this sense drives a wedge between questions of production and distribution; it assumes that goods are scarce relative to human wants; it is individualistic and tendentious in character; and it is equally relative to particular historical modes of exchange.

The last of these points, however, raises a much deeper issue. If Marx believed that some values (like distributive justice) were relative, was he committed to relativism generally in ethics? Is this the implication of his view that moral ideas were superstructural and that they operated to bolster the prevailing mode of production? The very possibility of critical social theory is at stake here; for if our consciousness is conditioned by social and economic structures, how can we base any valid criticism on the values and commitments that we find ourselves with? This is a knotty problem. It would be surprising if it could be unravelled in the scope of fifty pages; and the first part of Brenkert's book gives us no surprises in this regard.

The abiding impression is the misleading one began with: that the radical nature of Marx's thought has had to be underestimated in order to squeeze him into the role of moral philosopher. Marx did not want his philosophy to be reduced to a mere moral theory.

Jeremy Waldron

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## Maverick thinkers

Sophists, Socratics and Cynics  
by H. D. Rankin  
Croom Helm, £19.95  
ISBN 0 7099 2223 X

The Sophists, professional teachers and maverick intellectuals of the fifth-century Greek "enlightenment", have commonly been treated as a phenomenon unique to their time, whose enduring contribution to human thought was absorbed and wholly superseded by Plato and Aristotle. They have been alternately damned (on Plato's authority) for their verbal chicanery and moral opportunism, and applauded for the independence of their challenging dedication to reason and argument. Some scholars find in them serious and original philosophers, others only rhetorical flatters, stumbling occasionally on philosophically fruitful insights largely by accident.

The present book is not unique in trying to assess the character of their work and its role in its own time, though it goes farther than most in tracing their influences outside pure philosophy: it is particularly interesting on Thucydides. Its unusual feature is its pursuit of sophistic ideas through Socrates and his disciples into the philosophical traditions of the next century, and particularly among the Cynics. This endeavour is to be welcomed, as is its consequences that Plato is presented not as a timeless philosophical intellect, but as a man of his times, deeply involved in the controversies of his day and influenced by the work of his predecessors and contemporaries, even those of which he most vigorously disapproved.

The project, then, is admirable and modestly original; but its realization is seriously unsatisfying. It is far from clear what audience the author has in mind, or what purpose he expects his work to serve. It cannot be used as a source-book or as a guide to the ancient evidence: it is too brief and selective in its quotations to fill the former role, too vague and sparing in its references (occasionally absurdly misprinted) to be much use in the latter. It will hardly do, either, as an introductory study for philosophical beginners, because despite its over-simplifications and journalistic style, it does not discuss its subject in a particularly metaphysical and logical manner. In ways incomprehensible to the uninitiated, it employs allusions to ancient ideas and modern controversies abound. At the same time, more expert students of Greek philosophy will find it equally unhelpful. Too often its analyses stop short - perhaps out of an exaggerated respect for the gaps in our evidence - just where they begin to be interesting, where they are more properly the issues of any difficulty, they frequently seem to wobble precariously between the banal and the nonsensical.

Guthrie's work on the Sophists is well known; more recently George Kerferd's book on the same subject has added significantly to our understanding, and pointed the way towards further research. A book of the same calibre, pursuing the same themes into the next century, would have been received with gratitude. But Rankin's too cautious to nod (or even subtract) anything of significance; his later ones report, but do little to illuminate, some strands in the tangled skein of fourth-century debate.

"The groups discussed in the course of this book", he remarks at the beginning of his concluding chapter, "placed the reasoning, arguing intellect at the centre of affairs." One would wish that the book's author had done the same.

Andrew Barker

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*The Spirit of Modern Philosophy* is a collection of 13 lectures by the American philosopher Josiah Royce first published in 1892 and now reprinted by Dover/Constable at £8.10. Contemporary and colleague of William James and Charles Peirce, Royce is regarded as America's outstanding representative of the classic tradition of philosophical idealism.

## BOOKS

### Quest for order

The Creation Controversy: science or scripture in the schools  
by Dorothy Nelkin  
Norton, £12.50  
ISBN 0 393 01635 8

In recent years, organized opposition to evolution in America has grown to the point where today it constitutes a significant threat to orthodox science. The first stirrings of this revival of the evolutionary feeling occurred in 1969, when protestors persuaded the California State Board of Education to issue new guidelines recommending the inclusion of the Genesis account of creation alongside evolution in public school biology classes.

This spectacular (though short-lived) success paved the way for subsequent campaigns aimed at local school boards, textbook publishers, and state and federal agencies concerned with public education; and by 1982, the centenary of Charles Darwin's death, many states were either considering or had actually passed laws requiring "balanced treatment" of creation and evolution in public school and college curricula.

The rising tide of opposition to evolution caught the American scientific community unawares. To begin with, many biologists merely laughed at what they took to be space-age superstition, and one or two were even incautious enough to debate publicly with leading creationists without proper preparation (the result, predictably enough, was that they "lost"). During the past two or three years, however, things have begun to change.

In 1980, a new journal called *Creation/Evolution* was founded to rehearse and refute creationist arguments; and at about the same time a network of "committees of correspondence" was set up to try to win public support for evolution. When the state of Arkansas passed a "balanced treatment" act in 1981, it found itself being defied as so-called "scientific creationism" in court against a well-organized and sophisticated opposition of scientists, philosophers and theologians. This time, it was the creationists rather than the evolutionists who lost the argument.

Since the Arkansas trial there has appeared a steady stream of books devoted to the (relatively easy) task of demolishing the creationist position. What has been lacking, however, has been an analysis of the historical and social context of the conflict itself. Happily, this gap has now been filled by Dorothy Nelkin, whose book *The Creation Controversy* is a more considered and comprehensive history of anti-evolutionism as a cultural phenomenon than it is to combat it as an intellectual force. Nelkin is well qualified for this task, having previously undertaken detailed studies of public controversies over issues such as the siting of airports and the construction of nuclear power stations, and she brings to her analysis a welcome sensitivity to the complexities of the relationship between science and society.

At its outset, she notes the coincidence of the revival of anti-evolutionism with a much wider range of criticisms of science during the late 1960s and early 1970s. In debates over genetics, medicine, and civil and military technologies, the call was for more "socially responsible" science. However, while much of the most volatile protest came from the political left, the similar objections were being voiced more quietly by those whose ideological inclinations were closer to the right. "Majority" than the left, 1970s "scientific creationism" articulated the concerns of large numbers of conservative Americans who did not wish to see their traditional values overturned by what they took to be the secular, materialistic, and liberal claims of modern science.

Controversy charts the conflict unerringly. After a brief outline of earlier periods of the evolution controversy, the book moves to the early twentieth century, the roots of the current controversy, and the evolution of the "creationist" movement. It places evolution firmly in the context of American conservatism, and shows how the

very first time. The reaction that followed is traced through the leadership of creationist opinion and its extraordinary efforts to set up an alternative science of origins, through the tortuous political tactics of a movement inevitably at odds with an American constitution based squarely on the separation of church and state, and through a number of particular disputes including the recent trial at Little Rock, Arkansas (where, incidentally, Nelkin was a witness for the prosecution). The book concludes with discussions of the effectiveness of creationist tactics, of the social sources of the conflict, and of the lessons that can be learnt from it.

There is much here that is of value. Historians will reflect on the analysis of the fundamentalist revival of the early 1970s; biologists will ponder on the table which reveals the strong tendency of creation scientists to have been trained in applied physical sciences and engineering; educationists will dwell on the list of changes in biology textbooks that were recommended by

the California Board of Education as an alternative to so-called "balanced treatment"; and anyone with a concern for liberty will be inclined to wonder how a political movement can succeed in having religious dogma encoded in law - and this in the name of "fairness". In the hands of the creationists, the plea for social responsibility in science has been turned into the plea for social subservience in science to the prejudices of a sectarian minority.

If there is a shortcoming to the book, it is perhaps in its handling of the social sources of the dispute. Here, at what is undoubtedly the most difficult point of all, one is left wondering why evolution (rather than, say, astronomy or psychology) is the particular object of so much ideological interest. Neither religion in general nor fundamentalism in particular are sufficient explanations, since most religious people have no trouble with evolution, and fundamentalism is at odds with far more than simply biological theories of the origin of species. It is simply that evolution is the most widely known of

the many heresies of modern science, or can it be that there is something particularly offensive to conservative evangelical protestants? If, as Nelkin concludes, creationism is a response to the "quest for order and authority in a society increasingly influenced by the cynicism of the right", it would be helpful to know why the axe falls as when it does. At least we should then know when to hide.

In 1977 Dorothy Nelkin wrote a preliminary essay on modern anti-evolutionism entitled *Science Textbook Controversies and the Politics of Equal Time* (MIT Press). That book, published before most academics in either America or Britain thought the subject of any real importance, was not widely noticed. *The Creation Controversy* deserves a better fate.

John Durant

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## Save the redwoods

The Fight to Save the Redwoods: a history of environmental reform, 1917-1978  
by Susan R. Schrepfer  
University of Wisconsin Press, £19.20  
ISBN 0 299 08850 2

"If you have seen one redwood, you have seen them all." The words are attributed to Ronald Reagan, when he was governor of California. Although Mr Reagan denied having used these words, they are an apt summary of his attitude, as governor, to the proposal to have a Redwood National Park.

One of the many natural heritages bestowed upon California were its redwood forests, groves over a thousand years old with trees over 300 feet high and over 16 feet in diameter. All that remains of them are strips of forest, some of it preserved as parks, from north of San Francisco toward the Oregon border. The rest has been destroyed by timber companies. Eroded gullies, tons of topsoil carried down creeks in heavy rain: these are the record of Californian philistinism. The splendour of these forests has been known for a long time. Over a century ago, Walt Whitman wrote a poem about "the music of the choppers' axe" felling the redwoods he had seen on a visit into Humboldt county. Although the felling is still going on, about 4 per cent of the original two million acres has been rescued from the timber companies. Susan Schrepfer's book tells, in great detail, the story of that rescue.

It began when seven men - four professors and three politicians, a Californian oil magnate, and an official in the Park Service, met in a San Francisco hotel in 1919 and decided to establish a Save-the-Redwoods League. The idea quickly took root. Membership of the league was eminently respectable and affluent. Its aim was not to protest or even to seek public money to purchase tracts of forest; it was to raise the cash from its own membership. Citizens were driven along to "select and name a memorial grove for family or friend". The league's policy was to seek cooperation, not conflict, with the timber companies.

The league was not the only body concerned with conservation in California. As long ago as 1892 the Sierra Club was founded to foster outdoor recreation and to defend the Sierra Nevada from over-exploitation. The club, too, had individual members who could raise private funds, and in the preservation of the redwoods the league and the club had a common interest. Against this alliance were ranged the timber-cutting interests and, often, the Californian legislature: the one, because they resisted any move to annex their property; the other, because they were unwilling to saddle taxpayers with the costs of maintaining unproductive land as parks or reserves.

So progress to save the redwoods was slow. Although some state parks were set up, what the club wanted was a federal National Park, of the same standing as Yellowstone and Yosemite. The league was content to seek cooperation and to accept compromise, if by so doing they could get small



Klondike miners, a picture from *Discover Gold* by Geoffrey Hindley (Orbis, £15.00).

"museum-like" parks scattered about the countryside. The club wanted massive federal action to create, in the face of opposition not only from industry but even from the state legislature, a large wilderness "of ecological diversity".

Although this difference in aims weakened the alliance between the league and the club, it was a difference in means that finally broke the alliance. The club became militant, uncompromising, shrill in its criticism of the timber cutters, querulous in its dealings with the administration. And when, in 1965, years of lobbying had opened the doors at Washington wide enough for the proposal for a Redwood National Park to be put on the agenda, the case for the park was put at risk because the league advocated one site, and the club advocated another, quite different, site. This gave the opponents of any national park the opportunity to play off one conservation group against the other. By this time the strident publicity of the Sierra Club had aroused the conscience of Americans all over the nation. "Save the redwoods", like "save the whales" and "ban the bomb", became an emotive issue, and a political one, too, with Democrats and Republicans lining up against each other. Reagan, then governor of California, backed the timber industry, and this only underlined the need for the federal government to intervene.

Under its militant leadership and intensive lobbying, the Sierra Club managed, by the mid-1960s, to get a bill introduced in Congress for a Redwood National Park to be financed largely from Washington. The bill was signed by President Johnson on October 2, 1968. Though better than nothing, it bore the scars of the conflict of view between the league and the club, and it ignored the league's advice - to include complete

watersheds in the park - and the club's advice - to enclose enough land to create a real wilderness with ecological diversity.

There matters rested for a while. The Sierra Club lost some of its influence because its militant leader ran the club into debt through his extravagant advertising and propaganda, and he was obliged to resign (he then went on to galvanize the American Friends of the Earth). Meanwhile the timber cutters continued to fell redwoods, right up to the frontiers of the park, thus endangering the park itself. The league and the club both pressed for some restraint to be applied to the felling of trees still in private hands.

Voluntary restraint, however, proved impracticable, and by the early 1970s there was pressure to enlarge the National Park by acquisition of more forest. The timber industry formed an alliance with the trade unions to oppose this; it would mean the loss of up to 2,000 jobs in one county alone. The league once more came into its own, raising over a million dollars to buy bits of forest back and undertaking to continue this size of subsidy. But this, of course, was not enough. And in the end a second bill had to be passed by Congress to save the endangered park created ten years earlier.

This book summary gives an impression of the vivid account Susan Schrepfer has written. From official papers, files, and interviews she has produced a story as compelling as a journalist's account of a battle, ending breathlessly at the House of Representatives in Washington on February 9, 1978 - when the second bill was passed.

Eric Ashby

Eric Ashby is a fellow of Clare College, Cambridge.

## A range of flows

Rivers: form and process in alluvial channels  
by Keith Richards  
Methuen, £16.00 and £8.50  
ISBN 0 416 74900 3 and 74910 0

Before the 1950s fluvial geomorphology was predominantly concerned with landform development and the evolution of river systems. W. M. Davis was the original proponent of this approach of inferring the operation of erosional and depositional processes. Research in the United States during the 1950s into the processes controlling flow in alluvial channels questioned many of the assumptions in the Davis-based models and focused attention on the study of landforms in equilibrium. Much of this pioneering research into form and process in alluvial channels was reviewed in 1964 in Leopold, Wolman and Miller's classic *Fluvial Processes in Geomorphology* which became a standard reference for teachers and an inspiration for a generation of research students and undergraduates. The exponential growth in research which was stimulated by this book has generated the demand for an up-to-date text on geomorphology. *Rivers* attempts to provide for it.

Much debate in recent years has centred on the role of time in fluvial geomorphology. Over short and intermediate timescales, up to 100 years, many landforms can be regarded as being in equilibrium with the operative processes, and causal relations can therefore be established. These concepts are fully discussed in an introductory chapter, in which the controls on stable channel dimensions are also identified. Factors affecting the major controls, streamflow and sediment supply, are considered in the subsequent chapter on the drainage basin. This is rather a discursive treatment and the justification for such a chapter is not well made.

The hydraulic and sediment transport processes responsible for alluvial channel development are reviewed in two chapters. Boundary layer theory is introduced in a standard way to verify empirical flow resistance equations, while stream power or critical tractive force concepts are shown to be incorporated in many transport equations. Although all rivers adjust in response to a range of flows, it has been suggested that a single steady discharge could produce the same shapes and dimensions. This concept is considered in a chapter on the magnitude and frequency of channel-forming events. Unfortunately, an otherwise excellent chapter is marred by lengthy coverage of techniques for discharge measurement and flood frequency analysis - subjects already well covered by existing hydrological texts.

Considerable empirical evidence to show how the cross section, slope and plan shape of alluvial channels are controlled by flow and sedimentary conditions is presented in three core chapters. Many of the relations are substantially explained in terms of current knowledge of flow processes.

Although most of the book is concerned with stable channel conditions, a short chapter considers river channel changes, both natural and man-induced. Here the author identifies a variety of mechanisms that trigger instability (for example, reservoir construction and land use changes) and discusses the general responses of the channel to such changes, but he makes no reference to recent advances in the mathematical modelling techniques that enable changes in channel depth and slope to be predicted.

Clearly better knowledge of natural channel processes and the factors affecting regime channel dimensions is a prerequisite for improved river engineering design methods. The application of such knowledge is briefly considered in a final chapter, in which the author makes an excellent case for a greater geomorphological contribution to river engineering.

This lucid and scholarly review of over 850 research publications will undoubtedly serve as an excellent advanced text for geomorphology courses and as a standard reference work for students in allied subjects.

Richard Hey

Richard Hey is a lecturer in environmental sciences at the University of East Anglia.

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MICHAEL G. DYER

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## Administration

## Department of Education and Science

## HM Inspectors of Schools

Applications are invited from men and women, preferably aged between 35 and 45, for appointment as HM Inspectors with a particular interest in the training of teachers with particular reference to:

- the education of children with special educational needs in ordinary or special schools;
- educational disadvantage;
- multi-racial education.

HMI inspect educational institutions as part of both specialist and general assignments and provide advice to the Department and throughout the education system.

Applicants should have substantial, recent experience of the initial training of teachers. Experience may be confined to such work in higher education. In addition, knowledge of course design and the management of institutions, involvement in in-service training, and recent teaching in schools would each be additional recommendations.

Starting salary, with effect from 1st January, 1984, will be within the range £15,600-£20,700 (higher in London). Relocation expenses of up to £3,000 may be payable. Application forms (to be returned as soon as possible and not later than 30th December, 1983) and further information may be obtained from Mr E. D. Foster, Department of Education and Science, Room 16/17, Elizabeth House, 39 York Road, London SE1 7PH, telephone 01-928 9222, Extensions 2786 or 2237. Please quote 15/83.

(15/83)

## Department of Education and Science

## HM Inspectors of Schools

Applications are invited from men and women for appointment as HM Inspectors of Schools with a specialist interest in:

Computer Sciences/Studies  
English  
Science

HMI inspect educational institutions as part of both general and specialist assignments and provide professional advice to the Department and throughout the education system.

Those appointed will have opportunities to take part with other HMI in work related to current developments such as the Technical and Vocational Education Initiative, developments in examinations and assessment procedures, improvements in the curriculum for lower attaining pupils, and the follow-up to the White Paper on Teaching Quality.

Applicants, preferably aged between 35 and 45, should have a wide interest in education, good academic qualifications, and substantial experience of teaching Computer Sciences/Studies, English or Science in schools, colleges or universities. Appropriate experience in industry, careers educational guidance, in teacher training or as an LEA officer or adviser would be an asset for some of the appointments. Starting salary, with effect from 1st January, 1984, will be £15,600-£20,700 (higher in London). Relocation expenses of up to £3,000 may be payable. Application forms (to be returned as soon as possible and not later than 30th December, 1983) and further information may be obtained from Mr E. D. Foster, Department of Education and Science, Room 16/17, Elizabeth House, 39 York Road, London SE1 7PH, telephone 01-928 9222, Extension 2786 or 2237. Please quote 15/83.

(15/83)

## Department of Education and Science

## HM Inspectors of Schools

Applications for appointment as HM Inspectors of Schools are invited from men and women preferably aged between 35 and 45, with experience in: the education of pupils and students with special educational needs, particularly those arising from:

- physical or visual handicap;
- emotional and behavioural disorders;
- moderate or severe learning difficulties.

HMI inspect educational institutions as part of both general and specialist assignments and provide professional advice to the Department and throughout the education system.

Applicants must have good specialist qualifications, substantial teaching experience in either special or ordinary schools and colleges, and a broad interest in the development of general education for those with learning difficulties.

Starting salary, with effect from 1st January, 1984, will be within the range £15,600-£20,700 (higher in London). Relocation expenses of up to £3,000 may be payable. Application forms (to be returned as soon as possible and not later than 30th December, 1983) and further information may be obtained from Mr E. D. Foster, Department of Education and Science, Room 16/17, Elizabeth House, 39 York Road, London SE1 7PH, telephone 01-928 9222, Extensions 2786 or 2237. Please quote 14/83.

(14/83)

## Personal

## BOOK PUBLISHER

invites AUTHORS to send manuscripts for publication. All categories considered, including POETRY and NEW AUTHORS are welcome.

MBRIN BOOKS LTD  
BRAINTON, DEVON EX36 4LD  
(Tel: BRAINTON 0311 5111)

IMMEDIATE ADVANCES £100 to £20,000.  
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£10,000-£20,000 in 10 days.

THE GENERAL SYNOD OF THE  
CHURCH OF ENGLAND BOARD OF EDUCATION  
AND  
THE NATIONAL SOCIETY FOR  
PROMOTING RELIGIOUS EDUCATION  
wish to appoint jointly

## A General Secretary

The task of the Board of Education is to promote and supervise on behalf of the General Synod the general education work of the Church both in the parishes and within the national education system. The National Society works in close association with the Board, but has its own team of staff, some of whom are shared with the Board, under the same General Secretary.

Applications for the post of Joint General Secretary are invited from communicant members of the Church of England, lay or ordained. The successful candidate will have knowledge of a wide range of educational activity, be accustomed to assist in the formulation and presentation of policy and be able to motivate and manage the two staff teams. A commitment to the Church's involvement in all aspects of education is also essential.

The post is graded at Senior Principal level. The starting salary will therefore be not less than £17,593 per annum (including the London Weighting Allowance of £1,250).

Further details and application form available from: Mrs Anne E. Holt, Personnel Officer, Church House, Dean's Yard, Westminster, London SW1P 3NZ. Tel: 01-222 9011, Ext. 351. Short listed candidates will be interviewed in London on 7th and 8th February, 1984.

Closing date for receipt of applications: 6th January, 1984.

(14/83)

Bangor  
Normal College  
Principal: Dr J. A. Davies.  
M.A., B.Sc.  
APPOINTMENT OF  
SENIOR  
ADMINISTRATIVE  
OFFICER/BURSAR

Applications are invited from suitably experienced persons, who are fully conversant with the senior post of a senior officer in a school or college, to the post of Senior Administrative Officer/Bursar at Bangor Normal College. The successful candidate will be responsible for the day-to-day running of the college, including the financial, personnel and general administration. The post is full-time and requires a minimum of five years' experience in a similar post. The salary is £12,500 per annum. Applications should be sent to the Principal, Bangor Normal College, Bangor, Co. Down, N.I. 48 0AA. Tel: 0286 25111.

Y Coleg Normel  
Bangor  
Principal: Dr J. A. Davies.  
M.A., B.Sc.  
SWYDDOG  
GWYBYDDOL  
UWCH/BURSAR

Applications are invited from suitably experienced persons, who are fully conversant with the senior post of a senior officer in a school or college, to the post of Senior Administrative Officer/Bursar at Y Coleg Normel, Bangor. The successful candidate will be responsible for the day-to-day running of the college, including the financial, personnel and general administration. The post is full-time and requires a minimum of five years' experience in a similar post. The salary is £12,500 per annum. Applications should be sent to the Principal, Y Coleg Normel, Bangor, Co. Down, N.I. 48 0AA. Tel: 0286 25111.

## Librarians

Cambridge  
University Library  
Assistant Library  
Officers

Applications invited from good honours graduates for two vacant posts in the Cataloguing and Periodicals departments. Research and/or library qualifications highly desirable, and experience of academic libraries and an interest in automated library procedures additional advantages.

Guidance on the Assistant Library Officer Scale £7,390 to £9,425.

Further particulars from the University Librarian, Secretary to the Appointment Committee for the University Library, University Library, West Road, Cambridge CB3 9DR. Applications should be sent to the Librarian by 20th January 1984.

Holidays and  
Accommodation

EXPLORE AUSTRALIA  
Get to see the real Australia that few Australians have ever seen - Bill King's Australia. The G. Aus Outback. The G. Barrier Reef. Exciting 4-wheel drive expeditions. Interacting coach/bike/campers. Tours. Aus. Helium Fares from £582. AUSTRAVEL  
77 Park Lane, London W1K 7AE. Tel: 01-272 2471.

## Colleges of Technology

## Lothian Regional Council

NAPIER COLLEGE OF COMMERCE AND TECHNOLOGY  
Head of Department of Management

Salary: £18,144

The Department offers a range of postgraduate and post-experience courses, together with a programme of short courses and other related activities. As part of the duties of the Head of Department, the person appointed will be required to direct the activities of the Napier College Management Centre.

Applicants should be appropriately qualified and possess substantial management experience.

Application forms and further particulars from:

The Administrative Officer (Personnel)  
Napier College of Commerce and Technology  
Colinton Road  
Edinburgh EH10 5DT

(15/83)

## Overseas

## WESTERN AUSTRALIAN INSTITUTE OF TECHNOLOGY

Senior Lecturer  
Senior Tutor/Lecturer -  
Art and Design History/Theory  
(Two Positions)

The senior appointee will be responsible for the History and Theory components of the undergraduate and postgraduate programmes in the School of Art and Design. Both appointees will be required to teach one or more of: 19th and 20th Century Western Art and Design History; Australian Studies; Popular Culture; Contemporary Art Theory. Ability to teach in other specialist areas will be welcome. An Honorary Degree or equivalent in Art History is essential. A relevant Higher Degree (Ph.D. preferred) is required for the senior appointment.

Salary Range: Senior Lecturer: A\$31,380-A\$38,585  
Lecturer: A\$23,394-A\$30,734  
Senior Tutor: A\$20,184-A\$23,100.

Tenure: With the exception of the Senior Tutor position, these appointments are available with tenure. Persons preferring a one to three year appointment are also invited to apply. Half-time appointments may be considered.

Interested persons are invited to telephone Cheltenham (0404) 874345 after 18th December to discuss these positions with an Institute representative.

Western Australian Institute of Technology,  
c/o Government of Western Australia,  
115 Strand, London WC2R 0AJ.

(15/83)

## GOVERNMENT OF

## BRUNEL

Senior  
Technical Instructor  
(Telecommunications)  
attractive salary (free of local tax)  
+allowances

The Education Department of Brunel has an attractive opportunity for an experienced technical instructor in telecommunications at one of the country's main technical colleges. The successful candidate will be responsible for teaching telecommunications principles and computers up to T5 level for City and Guilds 270/271 Telecommunications Technician courses and will also assist in the development of new computer courses.

Applicants should have at least five years' teaching/industrial experience and possess an HND, or equivalent, in electronics with a computer application, together with a recognised teaching qualification. Experience of teaching TEC courses would be an advantage.

The initial appointment will be on a three year renewable contract basis.

In addition to an attractive tax-free salary which ranges from £7,427 to £12,334 per annum, the excellent range of benefits includes:

- 25% gratuity • annual bonus equivalent to one month's salary (tax free) • generous subsidised housing • free air passages • children's education allowance and holiday visit passages • generous paid leave • interest free car loan • free medical attention.

Rate of exchange as at November 1983 is £1 = B\$3.181, but the rate of exchange fluctuates.

Brunel is an Islamic Sultanate which enjoys close ties with Britain and countries throughout South-East Asia, and has a record of stable, liberal government. English is widely spoken and the people, predominantly Malay and Chinese, have a reputation for hospitality. Situated on the North West coast of Borneo, facing the South China Sea, the country combines an expanding economy with an attractive tropical location.

For further details please ring 01-881 0521 ext. 34, or write to: The Brunel Commission, P.O. Box 100, 40 Cromwell Road, London SW7 2ED.

Closing date for applications: 13th January 1984.

## Overseas continued

## Gippsland Institute of Advanced Education

## AUSTRALIA

## DIRECTOR

The Council invites applications for the position of Director of the Gippsland Institute of Advanced Education.

The Gippsland Institute of Advanced Education was established in 1968, and currently has an enrolment of approximately 2,400 students (including some 1,600 external) in six schools: Applied Science, Engineering, Business, Social Science, Education, and Visual Arts.

The campus is located at Churchill in the Latrobe Valley. The Institute maintains a strong and continuing relationship with regional industries, educational bodies and commerce.

The Director is the Chief Executive Officer of the Institute and is responsible to the Council for the overall supervision of the Institute. The Director advises Council on academic, financial, staffing and administrative policy and is responsible for the implementation of Council decisions through an established administrative and academic structure.

Applicants should have distinguished records in tertiary education; high level experience in educational administration; demonstrated qualities of leadership and management ability; and a commitment to the philosophy and needs of advanced education.

It is expected that the appointee will take up duties by mid-1984.

The Institute reserves the right to appoint by invitation.

SALARY: \$455,896.

Interested persons should write or telephone Mr. G. T. Smart, (031) 220-211, Secretary to Council for relevant information before making a formal application.

Applications close on 31st January, 1984.

Applications should be addressed to:

Mr. C. L. Hestell,  
President of Council,  
Gippsland Institute of  
Advanced Education,  
Switchback Road,  
Churchill, Victoria 3842 Australia.

## Research

Napier College  
Lothian Regional  
Council  
Department of  
Mathematics  
RESEARCH  
ASSISTANT

Salary on Scale £8,884 - £9,154

There is a vacancy for a Research Assistant in the Physics Department to undertake research in the following areas:

- 1. Windturbine Electric Generator
- 2. Solid State Physics
- 3. National Approximation
- 4. Stability of
- 5. Nuclear Fusion Reactor
- 6. Plasma Modelling
- 7. Visual Object Identification

Applicants must have a Honours Degree or equivalent in a relevant discipline.

A successful applicant will be expected to register with the Department of Science and Technology for National Research Fellowships.

The post is suitable for three years and may be extended for a third year.

Application forms and further particulars from:

The Administrative Officer  
Napier College, Lothian Regional Council,  
Colinton Road, Edinburgh EH10 5DT.

Thames Polytechnic  
Department of Science  
and Physics

## RESEARCH FELLOW

The Research Fellow will be responsible for the supervision of research students and the development of research projects in the following areas:

- 1. Solid State Physics
- 2. Plasma Physics
- 3. Nuclear Physics
- 4. Particle Physics
- 5. Astrophysics
- 6. Cosmology
- 7. Quantum Mechanics
- 8. Statistical Mechanics
- 9. Thermodynamics
- 10. Electrodynamics
- 11. Optics
- 12. Acoustics
- 13. Fluid Mechanics
- 14. Solid Mechanics
- 15. Materials Science
- 16. Chemical Physics
- 17. Biological Physics
- 18. Environmental Physics
- 19. Geophysics
- 20. Atmospheric Physics
- 21. Oceanography
- 22. Space Science
- 23. Plasma Physics
- 24. Nuclear Physics
- 25. Particle Physics
- 26. Astrophysics
- 27. Cosmology
- 28. Quantum Mechanics
- 29. Statistical Mechanics
- 30. Thermodynamics
- 31. Electrodynamics
- 32. Optics
- 33. Acoustics
- 34. Fluid Mechanics
- 35. Solid Mechanics
- 36. Materials Science
- 37. Chemical Physics
- 38. Biological Physics
- 39. Environmental Physics
- 40. Geophysics
- 41. Atmospheric Physics
- 42. Oceanography
- 43. Space Science
- 44. Plasma Physics
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- 46. Particle Physics
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- 103. Geophysics
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- 105. Oceanography
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